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

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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: Erik Mickelson Email: DJRemediation_Forms@oxy.com

Phone Numbers
Phone: (720) 929-4306
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36296 Initial Form 27 Document #: 403846234

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.
- [X] 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.
- [X] Other: Request Director's Approval to establish site specific waste profile

SITE INFORMATION

Yes Multiple Facilities

Facility Type: WELL Facility ID: API #: 123-08232 County Name: WELD
Facility Name: UPRR 42 PAN AM GAS UNIT X 1 Latitude: 40.184270 Longitude: -104.815320
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNE Sec: 31 Twp: 3N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 488128 API #: County Name: WELD
Facility Name: UPRR 42 PAN AM X 1 Wellhead Latitude: 40.184417 Longitude: -104.815431
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWNE Sec: 31 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

Platteville Ditch 140 feet (ft) east. Platte Valley Canal 140 ft west. Retention Pond 290 ft west, 310 ft southwest, and 1,180 ft northwest. Water well 1,120 ft west. Occupied buildings 1,110 ft west, 1,160 ft north, and 1,210 ft southwest. Livestock 580 ft north and 1,270 ft southeast. Railroad 750 ft west. Highway 870 ft west. Agriculture. Groundwater at approximately 12 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
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.

Wellhead cut and cap operations were completed at the UPRR 42 PAN AM X 1 wellhead September 12, 2024. Visual inspection and field screening of soil 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. An additional sample (E01@3') was collected along the eastern sidewall of the excavation due to potential impact. Initial analytical results indicated that 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene (TMBs), total petroleum hydrocarbons (TPH), naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, and pH concentrations exceeding the ECMC Table 915-1 allowable levels were present at the former wellhead location. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403921008) was submitted on September 16, 2024 and the ECMC issued Spill/Release Point ID 488128. Verification samples were collected concurrently with the initial samples, but in separate laboratory provided bottles to confirm the initial pH results. Final analytical results were within the ECMC Table 915-1 allowable levels or within background levels. The flowline associated with the wellhead was removed between September 10 and September 12, 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@3'). The samples were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Analytical results indicate that the samples collected during flowline removal activities were within the ECMC Table 915-1 allowable levels or background levels.

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):

Between September 10 and December 4, 2024, excavation activities were conducted to address the remaining soil impacts at the former wellhead and confirmation soil samples were collected from the final excavation extents at depths ranging from 5 ft bgs to 12 ft bgs. The samples were submitted for analysis of the site-specific waste profile including TPH, benzene, toluene, ethylbenzene, xylenes (BTEX), TMBs, polycyclic aromatic hydrocarbons (PAHs), boron, and select Table 915-1 metals, using ECMC-approved methods. Analytical results indicate that soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or background levels.

Proposed Groundwater Sampling

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

Groundwater was encountered in the cut and cap excavation at approximately 12 ft bgs. One groundwater sample (GW01@12') was collected and analyzed for full list Table 915-1 constituents. One background groundwater sample (GW-BG09@12') was collected for Table 915-1 inorganic constituents in groundwater. Analytical results indicate that levels of total dissolved solids (TDS) and sulfate ion exceed the ECMC Table 915-1 allowable levels and background levels. Groundwater monitoring wells will be installed to further assess groundwater conditions at the site. Additional assessment details will be provided in a subsequent Form 27 Supplemental report.

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 and September 12, 2024 visual inspection and field screening of soil were conducted at four sidewall locations within the cut and cap excavation area, four locations at the ground surface adjacent to the excavation, and one flowline pothole. 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 September 23, 2024, a soil gas survey was conducted at three soil vapor points (SVPs) installed adjacent to the former wellhead location following cut and cap operations. Two additional SVPs were blocked and could not be screened. GEM 5000 field readings were all non-detect for methane at all remaining SVPs.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 18
Number of soil samples exceeeding 915-1: 14
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet): 691

NA / ND

-- Highest concentration of TPH (mg/kg): 6480
-- Highest concentration of SAR: 4.18
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 12

Groundwater

Number of groundwater samples collected: 1
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet): 12
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?

Twenty background soil samples were collected from native material adjacent to the wellhead cut and cap excavation. The background soil samples were submitted for laboratory analysis of pH, specific conductivity (EC), sodium adsorption ration (SAR), boron, and metals using ECMC-approved methods. Laboratory analytical results indicate that levels of EC, SAR, arsenic, barium, cadmium, lead, nickel, and selenium are naturally high in the native soil.

One background groundwater sample was collected for analysis of Table 915-1 inorganic constituents in groundwater.

☐ 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 plume. The monitoring well installation scope of work will be provided 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.

Approximately 160 cubic yards of impacted soil were removed from the site and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling. Approximately 20 cubic yards of impacted soil were removed from the site and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado. Disposal records are kept on file and are available upon request. The wellhead cut and cap 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 data indicate impacts in the cut and cap excavation have been remediated and soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or background levels. Groundwater was encountered in the cut and cap excavation at approximately 12 ft bgs. Laboratory analytical results indicate that levels of TDS and sulfate exceed the ECMC Table 915-1 allowable levels and background levels. Groundwater monitoring wells will be installed to delineate the dissolved phase plume. The monitoring well installation scope of work will be provided in a subsequent Form 27 Supplemental report.

Soil Remediation Summary

☐ **In Situ**

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

☐ **Ex Situ**

- ____ 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.

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 confirmation of the completion of excavation activities.

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: [ ] 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: $ 10500

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. 09/16/2024

Actual Spill or Release date, or date of discovery. 09/13/2024

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. 02/16/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/12/2024

Proposed date of completion of Remediation. 02/16/2027

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

Per Rule 915.e.(2).C, discrete grab samples (B01@6' and E01@3') was collected from the most impacted material available in the source area on 9/12/2024. The laboratory report and results summary table are attached. Based on these results, KMOG requests approval to amend confirmation sampling and analysis to only include hydrocarbon and metal analytes detected above laboratory reporting limits and reclamation parameters exceeding Table 915-1 allowable levels, specifically: TPH, BTEX, TMBs, PAHs, boron, arsenic, barium, cadmium, copper, lead, nickel, selenium, and zinc.

Per the general comments issued by the ECMC for denied Form 27 Document No. 404052925:

Parent samples were not rerun for soil suitability parameters. Instead, verification samples were collected concurrently with the initial samples, but in separate laboratory provided bottles to confirm the initial soil suitability results.

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: 08/22/2025 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: 01/30/2026

Remediation Project Number: 36296

COA Type	Description
	Due to the presence of impacted soil in contact with groundwater Operator will install monitoring wells (within the spill/release area, cross-gradient, down-gradient, and up-gradient) to properly characterize groundwater pursuant to Rule 915. Operator will analyze groundwater samples from all monitoring wells for Table 915-1 organic and inorganic parameters for a minimum of four quarterly monitoring events.
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
404309205	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
404318662	ANALYTICAL DATA SUMMARY TABLE(S)
404320997	LABORATORY ANALYTICAL REPORT
404527048	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 4 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)