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: 403972455
Receive Date: 11/08/2024
Report taken by: Alexander Ahmadian

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) 9294306
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33231 Initial Form 27 Document #: 403625797

PURPOSE INFORMATION

- [ ] Rule 913.c.(1): Pit or Cuttings Trench closure.
- [X] 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: LOCATION Facility ID: 319384 API #: County Name: WELD
Facility Name: COSLETT GAS UNIT E TRUE-61N68W 1SWSE Latitude: 40.076240 Longitude: -104.948110
** correct Lat/Long if needed: Latitude: 40.074414 Longitude: -104.949447
QtrQtr: SWSE Sec: 1 Twp: 1N Range: 68W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 486472 API #: County Name: WELD
Facility Name: COSSLETT GU E TRUE 1 FAC Hist. Rel. Latitude: 40.074407 Longitude: -104.949470
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSE Sec: 1 Twp: 1N Range: 68W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW

Most Sensitive Adjacent Land Use Crop land

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Multiple buildings are located within ¼ mile of the facility.
The nearest building is located approximately 770 feet southwest of the facility.

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
Yes	SOILS	30' (N-S) x 25' (E-W) x 4.5' bgs	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 completed at the Cosslett E GU True 1 production facility location on April 10, 2024. Visual inspection and field screening of soils at the former production facility infrastructure locations was conducted following decommissioning activities, and five (5) 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 the BTEX, TMB, and/or PAH results for samples PW-B01@4' and PW-E01@4' exceeded the ECMC Table 915-1 soil standards. As such, a Form 19-Initial/Supplemental Spill/Release Report (Document No. 403751086) was submitted on April 12, 2024, and the ECMC issued Spill/Release Point ID 486472. The remaining analytical results for soil samples collected during facility decommissioning activities were in compliance with ECMC Table 915-1 standards and/or within site-specific background (x 1.25 for metals). Groundwater was not encountered during facility decommissioning or subsequent over-excavation activities. Soil sample location and field screening data are presented in Table 1. Soil analytical results are summarized in Tables 2 through 5. The facility decommissioning soil sample and field screening locations are illustrated on Figure 1. The excavation soil sample locations are illustrated on Figure 2.

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):

On April 15, 2024, excavation activities were conducted to address remaining soil impacts at the former produced water vessel (PWV) location. A tank battery secondary containment liner was discovered and removed during excavation activities. Soil samples were collected from the base and sidewalls of the final excavation extent, at depths of approximately 4.5 and 3 feet below ground surface (bgs). Based on the results for samples PW-B01@4' and PW-E01@4', a waste characterization profile was created and the confirmation soil samples were submitted for laboratory analysis of BTEX, TPH, TMB, PAHs, pH, and select Table 915-1 metals (As, Ba, Cd, Cu, Pb, Ni, Zn). Analytical results indicate that constituent concentrations in the soil samples collected from the final excavation extents were in compliance with ECMC Table 915-1 standards and/or within site-specific background (x 1.25 for metals).

Proposed Groundwater Sampling

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

Groundwater was not encountered during facility decommissioning or subsequent over-excavation activities. If groundwater is encountered during future impacted soil excavation activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4- and 1,3,5-trimethylbenzene (TMB), using standard methods appropriate for detecting the target analytes in ECMC Table 915-1.

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 10, 2024, visual inspection and field screening of soils was conducted at 1 location below the former AST, 3 sidewall locations within the PWV removal excavation area, 1 location at the former meter house (MH), and 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 ECMC Operator Guidance. No additional excavation or site assessment activities have been conducted since a previous Form 27-Supplemental update was submitted (Document No. 403776825). Final laboratory analytical data for soil sample REC-B01@2' has been received since the previous Form 27-Supplemental update and is provided in attachment A.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 17

Number of soil samples exceeeding 915-1: 3

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

Approximate areal extent (square feet): 750

NA / ND

-- Highest concentration of TPH (mg/kg): 309

-- Highest concentration of SAR: 4.27

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 5

Groundwater

Number of groundwater samples collected: 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet):

Number of groundwater monitoring wells installed:

Number of groundwater samples exceeding 915-1:

Highest concentration of Benzene (µg/l):

Highest concentration of Toluene (µg/l):

Highest concentration of Ethylbenzene (µg/l):

Highest concentration of Xylene (µg/l):

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?

[X] Were background samples collected as part of this site investigation?

Eight (8) background soil samples were collected from undisturbed native material adjacent to the former production facility location, at comparable depths and soil composition to the confirmation soil samples. Additionally, twelve (12) background soil samples were collected from undisturbed native material adjacent to the associated Cosslett E GU 1 wellhead location, at comparable depths and soil composition to the confirmation soil samples. 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. Analytical results for the background soil samples are presented in Tables 4 and 5. A background sample location map for the Cosslett E GU 1 wellhead is illustrated on figure 4. A proximity map of the Cosslett E GU 1 production facility and the Cosslett E GU 1 wellhead is illustrated in figure 5.

[ ] Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards):

Volume of liquid waste (barrels):

[X] Is further site investigation required?

On June 18, 2024, historical soil impacts were discovered at the Cosslett E GU True 1 Production facility location, during reclamation activities. As such, additional background soil samples and a preliminary waste characterization soil sample were collected on July 18, 2024, from material most likely to be impacted, based on field observations and PID readings, and submitted for laboratory analysis of the full Table 915-1 analytical suite. Analytical results for waste characterization sample REC-B01@2' indicated that soil impacts were present due to 1-Methylnaphthalene (1-M), 2-Methylnapthalene (2-M), Naphthalene (N) and pH results above the ECMC Table 915-1 soil standards and site specific background levels. Excavation activities to address soil impacts at the REC-B01@2' sample location have not yet been initiated and will be summarized in a forthcoming Form 27-Supplemental update. The reclamation soil sample locations are illustrated on 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.

On April 15, 2024, approximately 220 cubic yards of impacted material were removed from the PWV excavation area and transported to the Front Range Landfill in Erie, Colorado for disposal. A tank battery secondary containment liner was discovered and removed during excavation activities. The excavation area will be backfilled and re-graded to match pre-existing site 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 indicated that impacted soils in the PWV excavation area have been remediated to be in compliance with the ECMC Table 915-1 standards and/or within site-specific background (x 1.25 for metals). A tank battery secondary containment liner was discovered and removed during excavation activities. Laboratory results indicate that constituent concentrations in the remaining soil samples collected during facility decommissioning operations were in compliance with the ECMC Table 915-1 soil standards and/or within site-specific background (x 1.25 for metals). Groundwater was not encountered during facility decommissioning or subsequent over-excavation activities. On June 18, 2024, historical soil impacts were discovered at the Cosslett E GU True 1 Production facility location, during reclamation activities. As such, additional background soil samples and a preliminary waste characterization soil sample (REC-B01@2') were collected on July 18, 2024. Analytical results for waste characterization sample REC-B01@2' indicated that soil impacts were present due to 1-M, 2-M, N and pH results exceeding ECMC Table 915-1 soil standards and site specific background levels. Excavation activities to address soil impacts at the REC-B01@2' sample location have not yet been initiated and will be summarized in a forthcoming Form 27-Supplemental update.

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) 220
  - Name of Licensed Disposal Facility or ECMC Facility ID # ____
- 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.

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

[X] 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 Colorado 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: $ 17000

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:

NA

Volume of E&P Waste (solid) in cubic yards 220

E&P waste (solid) description Impacted Soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Front Range Landfill - Erie, 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? No

Does the previous reply indicate consideration of background concentrations?

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.

Following the completion of excavation and assessment activities, the site will be restored to its pre-release grade and 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. 04/12/2024

Actual Spill or Release date, or date of discovery. 04/11/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/10/2024

Proposed site investigation commencement. 10/28/2024

Proposed completion of site investigation. 04/28/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/28/2025

Proposed date of completion of Remediation. 07/28/2025

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

Excavation activities to address soil impacts at the REC-B01@2' sample location have not yet been initiated and will be summarized in a forthcoming Form 27-Supplemental.

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: 11/08/2024 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: Alexander Ahmadian Date: 01/29/2025

Remediation Project Number: 33231

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
403972455	FORM 27-SUPPLEMENTAL-SUBMITTED
403977666	SOIL SAMPLE LOCATION MAP
403977667	SOIL SAMPLE LOCATION MAP
403977671	SOIL SAMPLE LOCATION MAP
403977672	SOIL SAMPLE LOCATION MAP
403977675	SITE MAP
403977677	ANALYTICAL RESULTS
403977698	PHOTO DOCUMENTATION

Total Attach: 8 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)