FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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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 COGCC 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: Gregory Hamilton Email: Gregory_Hamilton@oxy.com

Phone Numbers
Phone: (970) 336-3500
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PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 29292 Initial Form 27 Document #: 403377191

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.
- [ ] 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: 329742 API #: County Name: WELD
Facility Name: UPRC-63N67W 5NESE Latitude: 40.253480 Longitude: -104.907840
** correct Lat/Long if needed: Latitude: 40.247874 Longitude: -104.913323
QtrQtr: NESE Sec: 5 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 484798 API #: County Name: WELD
Facility Name: UPRC 5-9L,10L,15L (P 5-10,15) TB Latitude: 40.247847 Longitude: -104.913323
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSE Sec: 5 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Non-crop Land

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

Multiple buildings and livestock holding pens are located within ¼ mile of the facility.
The nearest building is located approximately 310 feet northeast of the facility.
The nearest domestic water well is located approximately 420 feet west of the facility.
Surface water is located approximately 890 feet south of the facility.
A wetland is located approximately 490 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	9' (N-S) x 9' (E-W) x 2' 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 UPRC 5-9L, 10L, 15L (P 5-10, 15) O SA production facility location on June 7, 2023. Visual inspection and field screening of soils was conducted at the former production facility infrastructure locations following decommissioning activities, and five (5) soil samples were collected from the former separator (SEP), above-ground storage tank (AST), and produced water vessel (PWV) locations, at depths ranging from approximately 3 inches to 4 feet below ground surface (bgs). The soil samples were submitted for laboratory analysis of BTEX, 1,2,4- and 1,3,5-TMB, naphthalene, TPH-GRO (C6-C10), DRO (C10-C28), ORO (C28-C40), pH, EC, SAR, and boron, using standard ECMC-approved methods. Additionally, based on field observations and preliminary analytical results, soil sample AST1-B01@3" was selected for waste characterization purposes and was submitted for laboratory analysis of the full ECMC Table 915-1 analytical suite. Laboratory analytical results indicated that soil impacts were present at sample location AST1-B01@3" due to the 1,2,4- and 1,3,5-TMB, PAHs, and arsenic (As) concentrations above Table 915-1 standards. As such, a Form 19-Initial/Supplemental Spill/Release Report (Document No. 403427082) was submitted on June 9, 2023, and the ECMC issued Spill/Release Point ID 484798. Analytical results indicated that the remaining constituent concentrations in the soil samples collected during facility decommissioning activities were in compliance with the applicable Table 915-1 soil standards and/or within the range of site-specific background levels or acceptable soil variability for pH. Groundwater was not encountered during facility decommissioning or subsequent over-excavation operations. A topographic Site Location Map is provided as Figure 1. Soil sample location and field screening data are presented in Table 1. The soil sample and field screening 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 June 26, 2023, surface excavation activities were conducted to address remaining soil impacts at the former AST location. Following over-excavation activities, a confirmation soil sample (AST1-B03@2') was collected from the final surface excavation extent, at a depth of approximately 2 feet bgs. Due to the shallow surface excavation depth, and absence of discreet sidewall locations, sidewall samples were not collected from the final AST surface excavation extent. Based on the analytical results for waste characterization sample AST1-B01@3", confirmation soil sample AST1-B03@2' was submitted for laboratory analysis of BTEX, TMB, TPH, PAHs, As, Ba, and Se. Analytical results indicate that constituent concentrations in confirmation soil sample AST1-B03@2' were in compliance with ECMC Table 915-1 standards and/or within the range of 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):

Groundwater was not encountered during facility decommissioning or subsequent over-excavation operations.

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 June 7, 2023, visual inspection and field screening of soils was conducted at 1 location below the former AST, 1 location at the former meter house (MH), 3 sidewall locations within the PWV removal excavation area, and 1 dump line (DL) removal pothole. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the soil screening locations. As a result, no soil samples were submitted for laboratory analysis from these areas in accordance with the ECMC Operator Guidance for Oil & Gas Facility Closure document. Soil sample location and field screening data are presented in Table 1. Soil analytical results are summarized in Tables 2 through 5. The soil sample and field screening locations are illustrated on Figure 2. The laboratory analytical reports are provided as Attachment A. The field notes and a photographic log are provided as Attachment B.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 6

Number of soil samples exceeeding 915-1: 1

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet): 81

NA / ND

-- Highest concentration of TPH (mg/kg): 192.8

-- Highest concentration of SAR: 0.428

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 2

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?

☒ Were background samples collected as part of this site investigation?

Background soil samples BG-01@3" - BG-04@3" were collected from native material adjacent to the former production facility, from comparable depths and material as the confirmation soil samples. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters and Table 915-1 metals using standard ECMC-approved methods appropriate for detecting the target analytes. Analytical results for the background soil samples are presented in Tables 4 and 5.

☐ 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.

On June 26, 2023, approximately 20 cubic yards of impacted material were removed from the surface excavation area and transported to the Front Range Landfill in Erie, Colorado for disposal. The excavation areas were subsequently backfilled and contoured 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 data indicate that impacted soils in the AST surface excavation area have been remediated to be in compliance with the ECMC Table 915-1 standards and/or within the range of site-specific background levels. Laboratory analytical results indicate that constituent concentrations in the remaining confirmation soil samples collected from the former production facility infrastructure locations were in compliance with ECMC Table 915-1 standards and/or within the range of site-specific background levels or acceptable soil variability for pH. Hydrocarbon-impacted soil was not observed during field inspection and soil screening activities at the former AST, MH, DL, and PWV locations. Groundwater was not encountered during facility decommissioning or subsequent over-excavation activities. Based on the analytical and soil screening data presented herein, assessment is complete at this site and no further activities are required. As such, Kerr-McGee is requesting a No Further Action (NFA) determination for this location.

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) 20

Name of Licensed Disposal Facility or COGCC 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:

☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Final Report

☐ **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 NFA Request

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: $ 0

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 20

E&P waste (solid) description Impacted soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Front Range Landfill - Erie, Colorado

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

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

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 COGCC 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. 05/31/2024

Proposed date of completion of Reclamation. 06/30/2024

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. 06/08/2023

Actual Spill or Release date, or date of discovery. 06/08/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/07/2023

Proposed site investigation commencement. 06/07/2023

Proposed completion of site investigation. 06/26/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/07/2023

Proposed date of completion of Remediation. 06/26/2023

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

Laboratory data indicate that impacted soils in the AST surface excavation area have been remediated to be in compliance with the ECMC Table 915-1 standards and/or within the range of site-specific background levels. Laboratory analytical results indicate that constituent concentrations in the remaining confirmation soil samples collected from the former production facility infrastructure locations were in compliance with ECMC Table 915-1 standards and/or within the range of site-specific background levels or acceptable soil variability for pH. Based on the analytical and field screening data provided herein, assessment is complete and Kerr-McGee is requesting an NFA determination for this location.

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

Signed: Gregory Hamilton Title: Environmental Lead

Submit Date: 09/06/2023 Email: Gregory_Hamilton@oxy.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Taylor Robinson Date: 10/17/2023

Remediation Project Number: 29292

COA Type	Description
	Based on the information presented, the elevated pH sample from the spill area appears to be within the range of background pH; therefore, elevated pH may not be associated with E&P activities. It appears that no further remedial action is necessary at this time and the ECMC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or background levels or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required. The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.
1 COA	

Attachment Check 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
403520086	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
403520172	ANALYTICAL RESULTS
403520177	SITE MAP
403520183	SOIL SAMPLE LOCATION MAP
403520214	PHOTO DOCUMENTATION
403520216	ANALYTICAL RESULTS
403563254	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 7 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)