FORM 27 Rev 5/22

State of Colorado
Energy & Carbon Management Commission

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Report taken by:

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

Phone Numbers

Address: P O BOX 173779
Phone: (970) 515-1058
City: DENVER State: CO Zip: 80217-3779
Mobile: ( )
Contact Person: Austin Lee
Email: DJRemediation_Forms@oxy.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 25908 Initial Form 27 Document #: 403222007

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 #: 123-16432 County Name: WELD
Facility Name: SAKATA RED W 6-1A Latitude: 40.172720 Longitude: -104.812040
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NENE Sec: 6 Twp: 2N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 483785 API #: County Name: WELD
Facility Name: Sakata Red W 6-1A Flowline Latitude: 40.172720 Longitude: -104.812040
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NENE Sec: 6 Twp: 2N Range: 66W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications: SC

Most Sensitive Adjacent Land Use: 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

Sakata Red W 6-1A Wellhead
Domestic water well: approximately 715' NE
Surface water: approximately 945' E and 905' NW
Wetlands: none
Spring: none
Livestock: none
Occupied Building: multiple occupied buildings within 1/4 mile
High Priority Habitats: none

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	Groundwater not encountered	Groundwater samples/laboratory analytical results
Yes	SOILS	18' (E-W) x 14' (N-S) x 8' 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.

Wellhead cut and cap operations and partial flowline removal activities were completed at the Sakata Red W 6-1A wellhead from January 4 through February 3, 2023. Groundwater was not encountered in the wellhead cut and cap or flowline removal pothole excavation areas. Visual inspection and field screening of soils around the wellhead, associated pumping equipment, and flowline removal potholes was conducted following wellhead cut and cap operations and partial flowline removal activities and soil samples (WH-B01@6', FL-B01@5', FL-B02@6', FL-B07@5', and FL-B15@5') were submitted for laboratory analysis to determine if a release occurred. Initial laboratory analytical results indicated that the naphthalene concentration in soil sample FL-B07@5' exceeded the applicable ECMC Table 915-1 standard and background limit. As such, a Form 19-Initial Spill/Release Report (Document No. 403290283) was submitted on January 13, 2023, and the ECMC issued Spill/Release Point ID 483785. Laboratory analytical results also indicated that the pH concentrations in soil samples WH-B01@6' and FL-B07@8' exceeded the applicable ECMC Table 915-1 standard and background limit. As such, verification soil samples will be collected and submitted for pH only to verify the pH impacts in WH-B01@6' and FL-B07@8'. Verification sample collection is planned for the fall of 2024 once crops are harvested. A topographic Site Location Map showing the geographic setting of the site location is provided as Figure 1. Soil sample location and field screening data is presented in Table 1. The soil sample and field screening locations are illustrated on Figures 2 and 3. The laboratory analytical reports are provided as Attachment A. The field notes and a photographic log are provided as Attachment B.

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 January 4 through February 3, 2023, excavation activities were conducted to address remaining soil impacts at the former flowline location, and five (5) confirmation soil samples were collected from the sidewalls and base of the final excavation extent at depths of 5' and 8' below ground surface (bgs). Based on waste characterization results (FL-B07@5'), the confirmation soil samples were submitted for laboratory analysis of naphthalene, pH, arsenic, and barium using ECMC approved methods. Laboratory analytical results indicated that the pH concentrations in soil samples WH-B01@6' and FL-B07@8' exceeded the applicable ECMC Table 915-1 standard and background limit. As such, verification soil samples will be collected and submitted for pH only to verify the pH impacts in WH-B01@6' and FL-B07@8'. Verification sample collection is planned for the fall of 2024 once crops are harvested. Soil analytical results are presented in Tables 2 through 5.

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 wellhead cut and cap operations and flowline removal activities. If groundwater is encountered during remaining assessment activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for all analytes listed in ECMC Table 915-1 Organic Compounds in Groundwater (benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (1,2,4- TMB), and 1,3,5-trimethylbenzene (1,3,5- TMB)) and Groundwater Inorganic Parameters (total dissolved solids (TDS), chloride, and sulfate) 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):

From January 4 through 13, 2023, visual inspection and field screening of soils was conducted at 4 sidewall locations within the cut and cap excavation area, 4 locations at the ground surface adjacent to the excavation, and 11 flowline removal pothole excavation areas. 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 January 5, 2023, a soil gas survey was conducted at 5 soil vapor points (SVP-01 - SVP-05) installed adjacent to the former wellhead location following cut and cap operations. GEM 5000 field readings were non-detect for methane at all 5 soil vapor points. SVP locations are illustrated on Figure 2 and SVP screening results are presented in Table 6.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 10
Number of soil samples exceeeding 915-1: 7
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet): 252

NA / ND

ND — Highest concentration of TPH (mg/kg):
-- — Highest concentration of SAR: 2.44
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 8

Groundwater

Number of groundwater samples collected: 0
Was extent of groundwater contaminated delineated? No
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 WH-BG01@3' - WH-BG02@3' and WH-BG01@6' - WH-BG02@6' were collected from non-impacted native material nearby the wellhead. The background soil samples were submitted for laboratory analysis of Soil Suitability for Reclamation Parameters and ECMC Table 915-1 Metals using standard methods appropriate for detecting target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 3 and 5. The background soil sample locations are 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?

Assessment activities are ongoing. Verification soil samples will be collected and submitted for pH only to verify the pH impacts in WH-B01@6' and FL-B07@8'. Additional background samples will be collected during collection of verification soil samples. Verification sample collection is planned for the fall of 2024 once crops are harvested. Verification and background soil sample data will be provided in a subsequent Form 27-Site Investigation and Remediation Workplan Supplemental update.

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.

Assessment activities are ongoing. Verification soil samples will be collected and submitted for pH only to verify the pH impacts in WH-B01@6' and FL-B07@8'. Additional background samples will be collected during collection of verification soil samples. Verification sample collection is planned for the fall of 2024 once crops are harvested. Verification and background soil sample data will be provided in a subsequent Form 27-Site Investigation and Remediation Workplan Supplemental update.

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.

Assessment activities are ongoing. Verification soil samples will be collected and submitted for pH only to verify the pH impacts in WH-B01@6' and FL-B07@8'. Additional background samples will be collected during collection of verification soil samples. Verification sample collection is planned for the fall of 2024 once crops are harvested. Verification and background soil sample data will be provided in a subsequent Form 27-Site Investigation and Remediation Workplan Supplemental update.

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.

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 Colorado Oil and Gas Conservation Commission. The cost for remediation is a preliminary estimate only, costs may change upwards or downwards 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?

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. 11/08/2022

Actual Spill or Release date, or date of discovery. 01/13/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/04/2023

Proposed site investigation commencement. 01/04/2023

Proposed completion of site investigation. 12/31/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/13/2023

Proposed date of completion of Remediation. 12/31/2025

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

Per the COA on the denied Form 27-Site Investigation and Remediation Workplan Supplemental (Document No. 403357135) dated May 4, 2023, off location background soil samples have been removed. Additional background samples will be collected during collection of verification soil samples. Verification sample collection is planned for the fall of 2024 once crops are harvested. Verification and background soil sample data will be provided in a subsequent Form 27-Site Investigation and Remediation Workplan Supplemental update.

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

Signed: Austin Lee Title: HSE Advisor

Submit Date: 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: 25908

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
403929036	PHOTO DOCUMENTATION
403929041	SITE MAP
403929042	SOIL SAMPLE LOCATION MAP
403929043	SOIL SAMPLE LOCATION MAP
403929044	ANALYTICAL RESULTS
403929045	ANALYTICAL RESULTS

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)