

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Laurel Anderson

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 INFORMATION

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP	Operator No: 47120	Phone Numbers Phone: (970) 515-1110 Mobile: ()
Address: P O BOX 173779		
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Macy Kiel	Email: DJRemediation_Forms@oxy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35192 Initial Form 27 Document #: 403722803

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.
- 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.
- 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

No Multiple Facilities

Facility Type: WELL	Facility ID: _____	API #: 123-20969	County Name: WELD
Facility Name: OPEN 10-25	Latitude: 40.107550	Longitude: -104.609960	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSE	Sec: 25	Twp: 2N	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM 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

Multiple buildings and livestock holding pens are located within ¼ mile of the wellhead.
A building is located approximately 850 feet east of the wellhead.
The nearest domestic water well is located approximately 25 feet to the southeast of the wellhead.
Surface water is located approximately 490 feet to the south of the wellhead.
An area with wetland characteristics is located approximately 480 feet south of the wellhead.
The wellhead is located within a designated Mule Deer Migration Corridor and Aquatic Native Species Conservation Waters high priority habitat.



SITE INVESTIGATION PLAN

TYPE OF WASTE:

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

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	Pending verification soil sampling	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 were completed at the Open 10-25 wellhead on May 23, 2024. Soil screening around the well and associated pumping equipment was conducted following cut and cap operations, and soil sample (WH-B01@6') was submitted for laboratory analysis of the full Table 915-1 analytical suite using standard ECMC-approved methods. Removal of the flowlines associated with the wellhead was conducted on May 23, through 28, 2024. Two (2) soil samples were collected from locations where the flowline was disconnected at the wellhead (FL-B01@4') and separator (FL-B03@4') and 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 lead (Pb) concentration for sample location WH-B01@6' exceeded ECMC Table 915-1 standards and site-specific background levels (x 1.25 for metals). As such, a verification soil sample will be collected to confirm the initial Pb result and will be submitted for analysis of Pb only. Verification soil sampling activities are pending and will be summarized in a forthcoming Form 27-Supplemental update. Analytical results indicated that constituent concentrations in confirmation soil samples collected during flowline removal activities were within ECMC Table 915-1 standards and/or site-specific background levels (x1.25 for metals). 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 Figures 1 and 2.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

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

On May 23 through 28, 2024, three (3) soil samples were collected from the base of the wellhead cut and cap excavation area (WH-B01@6') and during flowline removal activities (FL-B01@4' and FL-B03@4) and submitted for laboratory analysis as described herein. Laboratory analytical results indicate that constituent concentrations in the confirmation soil samples were in compliance with ECMC Table 915-1 standards, and/or within site specific background levels (x 1.25 for metals), with the exception of the Pb concentration in sample WH-B01@6'. As such, a verification sample will be collected to verify the initial Pb result. Verification soil sampling activities are pending and will be summarized in a forthcoming Form 27-Supplemental update.

Proposed Groundwater Sampling

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

Groundwater has not been encountered during the wellhead cut and cap or flowline removal operations conducted to-date. If groundwater is encountered during ongoing site assessment activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted for laboratory analysis of BTEX, naphthalene, 1,2,4- and 1,3,5-TMB, using standard methods appropriate for detecting the target analytes in Table 915-1 as described in the approved Form 27 Initial (Document No. 403894591).

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 May 23, 2024, soil screening activities were conducted at 4 sidewall locations within the cut and cap excavation area and 4 locations at the ground surface adjacent to the excavation. 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 in accordance with ECMC Operator Guidance. On June 4, 2024, a soil gas survey was conducted at 5 soil vapor points (SVP01 - SVP05) 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. The SVP locations are illustrated on Figure 1 and SVP screening results are summarized in Table 6. The laboratory analytical reports are provided as Attachment A. The field notes and a photographic log are provided as Attachment C.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 3

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 0.468

-- Highest concentration of SAR 4.05

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 0

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?

Six (6) background samples were collected from undisturbed native material adjacent to the Open 10-25 wellhead, at comparable depths and soil composition to the confirmation soil samples. Additionally, ten (10) background samples were collected from undisturbed native material adjacent to the associated Shaklee/Open 10&13-25 O SA facility, 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. The background sample locations are illustrated on Figures 1 and 3. A site overview map showing the proximity of the nearby backgrounds compared to the Open 10-25 wellhead is provided as 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?

Verification soil sampling activities are pending and will be summarized in a forthcoming Form 27-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.

Laboratory analytical results indicate that constituent concentrations in the three (3) confirmation soil samples collected during wellhead cut and cap and flowline removal activities were in compliance with ECMC Table 915-1 standards, and/or within site specific background levels (x 1.25 for metals), with the exception of the Pb concentration in sample WH-B01@6'. As such, a verification soil sample will be collected to confirm the initial result, as described herein. Verification soil sample activities are pending, as such, no soils have been removed during wellhead cut and cap and flowline removal activities completed to-date.

REMIEDIATION 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 constituent concentrations in the three (3) confirmation soil samples collected during wellhead cut and cap and flowline removal activities were in compliance with ECMC Table 915-1 standards, and/or within site specific background levels (x 1.25 for metals), with the exception of the Pb concentration in sample WH-B01@6'. As such, a verification sample will be collected to verify the initial Pb result. Verification soil sampling activities are pending and will be summarized in a forthcoming Form 27-Supplemental update.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Excavate and offsite disposal

_____ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) _____

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ 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

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 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 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? No

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? 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 reseeded 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. _____

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. 11/15/2023

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/23/2024

Proposed site investigation commencement. 05/23/2024

Proposed completion of site investigation. 12/31/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

Proposed date of completion of Remediation. _____

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

Denied 11/04/2024 Verification soil sampling activities are pending and will be summarized in a forthcoming Form 27-Supplemental update.

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

Signed: Macy Kiel

Title: HSE Advisor

Submit Date: 08/26/2024

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: _____

Date: _____

Remediation Project Number: 35192

COA Type**Description**

0 COA	
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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
403894591	FORM 27-SUPPLEMENTAL-SUBMITTED
403898852	ANALYTICAL RESULTS
403898854	ANALYTICAL RESULTS
403898856	PHOTO DOCUMENTATION
403898857	OTHER
403898858	SOIL SAMPLE LOCATION MAP
403898859	SOIL SAMPLE LOCATION MAP
403898861	SOIL SAMPLE LOCATION MAP
403898862	SITE MAP
403898863	ANALYTICAL RESULTS
403898864	OTHER

Total Attach: 11 Files

General Comments

User Group	Comment	Comment Date
Environmental	The Laboratory Analytical PDF attached to this form indicates it has been altered after lab delivery. ECMC has not conducted a complete technical review of this form, data, or attachments but is returning this form to draft. Operator will conduct a thorough review of all laboratory analytical reports and data and contact ECMC Regional Environmental Protection Specialist (EPS) to report findings.	11/04/2024

Total: 1 comment(s)