

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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06/28/2024

Report taken by:

Kari Brown

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
Address: P O BOX 173779		Phone: (970) 515-1110
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Macy Kiel	Email: DJRemediation_Forms@oxy.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 29026 Initial Form 27 Document #: 403374429

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

Yes Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 484670	API #: _____	County Name: WELD
Facility Name: VOGL 5-8A SEP RISER Hist. Release	Latitude: 40.157812	Longitude: -104.914891	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNW	Sec: 8	Twp: 2N	Range: 6W 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? No

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 1/4 mile of the wellhead.
The nearest building is located approximately 240 feet west of the wellhead.
The nearest domestic water well is located approximately 400 feet south of the wellhead.

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
Yes	SOILS	20' (N-S) x 35' (E-W) x 9' 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 were completed at the Vogt 5-8A wellhead on June 21, 2023. Soil screening around the well and associated pumping equipment was conducted following cut and cap operations, and a soil sample (WH-B01@6') was submitted for laboratory analysis, as described in a previous Form 27-Supplemental update (Document No. 403533077). Removal of the flowline associated with this wellhead was conducted on June 21, 2023 through March 12, 2024. Soil samples were collected from 6 locations along the former flowline and submitted for laboratory analysis, as described in a previous Form 27-Supplemental update (Document No. 403727096). The 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 soil impacts were present at samples WH-B01@6', FL-B01@4', and FL-B02@4' due to the 1,2,4- and 1,3,5-TMB, TPH, PAHs, Ba, Pb, and/or pH results above ECMC standards and/or site-specific background levels (x 1.25 for metals). As such, two Form 19-Initial/Supplemental Spill/Release Reports (Document Nos. 403442749 and 403442990) were submitted on June 23 and 27, 2023, respectively, and the ECMC issued Spill/Release Point IDs 484650 and 484670, respectively. Excavation activities to address historical soil impacts at the former wellhead and flowline riser locations were subsequently conducted. Groundwater was encountered during over-excavation activities at the wellhead at approximately 8 feet below ground surface (bgs). The remaining analytical results for the soil samples collected during flowline removal activities were in compliance with Table 915-1 standards and/or within site-specific background levels (x 1.25 for metals). A topographic Site Location Map is provided as Figure 1. Soil and groundwater sample location and field screening data are presented in Table 1. Soil and groundwater analytical results are summarized in Tables 2 through 6.

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 December 12, 2023 through May 13, 2024, excavation activities were conducted to address remaining soil impacts at the former wellhead and flowline riser locations. Soil samples were collected from the sidewalls and bases of the final excavation extents, at depths ranging from approximately 6 to 9 feet bgs. Based on the waste characterization results for samples WH-B01@6', FL-B01@4', and FL-B02@4', and the ECMC-approved analyte list (Document No. 403533077), the confirmation soil samples were submitted for laboratory analysis of BTEX, TPH, TMB, PAHs, select Table 915-1 metals (As, Ba, Cd, Cu, Pb, Se), and pH. Analytical results indicated that constituent concentrations in the soil samples collected from the final wellhead and flowline riser excavation extents were in compliance with ECMC Table 915-1 standards and/or within site-specific background levels (x 1.25 for metals). The soil sample and field screening locations are illustrated on Figures 2 through 5.

Proposed Groundwater Sampling

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

Groundwater was encountered in the wellhead excavation area at approximately 8 feet bgs. On April 9, 2024, groundwater sample WH-GW01 was collected from the excavation area and submitted for laboratory analysis of BTEX, naphthalene, 1,2,4- and 1,3,5-TMB by USEPA Method 8260D. Analytical results indicated that constituent concentrations in groundwater sample GW01 were below laboratory detection limits (ND), and therefore in compliance with ECMC Table 915-1 standards. Based on the analytical results presented herein, hydrocarbon-impacted soil is not in contact with groundwater at this site. The groundwater sample location is illustrated on Figure 4. The groundwater analytical results are summarized in Table 6.

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 21, 2023 through March 12, 2024, soil screening was conducted at 4 sidewall locations within the cut and cap excavation area, 4 locations at the ground surface adjacent to the excavation, and 25 flowline removal pothole locations. 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. On July 5, 2023, 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, as described in a previous Form 27-Supplemental update (Document No. 403533077). The soil vapor screening results are summarized in Table 7. 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 23

Number of soil samples exceeding 915-1 9

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

Approximate areal extent (square feet) 550

NA / ND

-- Highest concentration of TPH (mg/kg) 2230.77

-- Highest concentration of SAR 3.63

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 9

Groundwater

Number of groundwater samples collected 1

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 8

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

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?

Thirteen (13) background soil samples were collected from undisturbed native material adjacent to the former wellhead and flowline riser locations, at comparable depths and soil composition to 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 in Table 915-1. 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 December 12, 2023 through May 13, 2024, approximately 30 cubic yards of impacted material were removed from the wellhead and flowline riser excavation areas and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling; approximately 10 cubic yards of impacted material were removed from the wellhead and flowline riser excavation areas and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado for disposal; approximately 50 cubic yards of impacted material were removed from the wellhead and flowline riser excavation areas and transported to the Front Range Landfill in Erie, Colorado for disposal. Following the collection of groundwater sample WH-GW01, approximately 30 barrels of non-impacted groundwater were removed from the wellhead excavation area via vacuum truck, for sidewall stability and backfill management purposes, and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling. The excavation areas were subsequently 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 indicate that impacted soils in the wellhead and flowline riser excavation areas have been remediated to be in compliance with ECMC Table 915-1 standards and/or within site-specific background levels (x 1.25 for metals). Laboratory analytical results indicate that constituent concentrations in the remaining confirmation soil samples collected during flowline removal activities were in compliance with ECMC Table 915-1 soil standards and/or within site-specific background levels (x 1.25 for metals). Laboratory analytical results indicate that constituent concentrations in the groundwater sample (WH-GW01) collected from the wellhead excavation area were below laboratory detection limits (ND), and therefore in compliance with ECMC Table 915-1 standards. Based on the analytical data presented herein, hydrocarbon-impacted soil was not in contact with groundwater in the wellhead excavation area. 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

☒ Ex Situ

Bioremediation (or enhanced bioremediation)

Yes Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 90

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # 149007

Natural Attenuation

No 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 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:

Approximately 30 cubic yards of impacted material were removed from the wellhead and flowline riser excavation areas and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling. Approximately 30 barrels of non-impacted groundwater were removed from the wellhead excavation area via vacuum truck and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling.

Volume of E&P Waste (solid) in cubic yards 90

E&P waste (solid) description Impacted soil

ECMC Disposal Facility ID #, if applicable: 149007

Non-ECMC Disposal Facility: Buffalo Ridge Landfill - Keenesburg, Colorado; Front Range Landfill- Erie, Colorado

Volume of E&P Waste (liquid) in barrels 30

E&P waste (liquid) description Non-impacted groundwater

ECMC Disposal Facility ID #, if applicable: 434766

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? 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 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. 09/30/2024

Proposed date of completion of Reclamation. 10/31/2024

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. 06/22/2023

Actual Spill or Release date, or date of discovery. 06/22/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/21/2023

Proposed site investigation commencement. 06/21/2023

Proposed completion of site investigation. 05/13/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/12/2023

Proposed date of completion of Remediation. 05/13/2024

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 08/28/2024 Laboratory analytical results indicate that impacted soils in the wellhead and flowline riser excavation areas have been remediated to be in compliance with ECMC Table 915-1 standards and/or within site-specific background levels (x 1.25 for metals). Laboratory analytical results indicate that constituent concentrations in the remaining confirmation soil samples collected during flowline removal activities were in compliance with ECMC Table 915-1 soil standards and/or within site-specific background levels (x 1.25 for metals). Laboratory analytical results indicate that constituent concentrations in the groundwater sample (WH-GW01) collected from the wellhead excavation area were below laboratory detection limits (ND), and therefore in compliance with ECMC Table 915-1 standards. Based on the analytical data presented herein, hydrocarbon-impacted soil was not in contact with groundwater in the wellhead excavation area. 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.

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: 06/28/2024

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: 29026

COA Type

Description

	ECMC has removed closure and denied this form and the pathway to groundwater is present and groundwater was removed prior to proper characterization. Due to the limited site investigation and in accordance with Rules 901.a and Rule 915.e.(3).B.iii Operator shall submit a Form 27 proposing monitoring wells for groundwater site characterization.
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

403838883	FORM 27 DENIED
403839014	ANALYTICAL RESULTS
403839017	PHOTO DOCUMENTATION
403839019	OTHER
403839021	SITE MAP
403839023	SOIL SAMPLE LOCATION MAP
403839025	SOIL SAMPLE LOCATION MAP
403839028	SOIL SAMPLE LOCATION MAP
403839031	SOIL SAMPLE LOCATION MAP
403839032	OTHER
403839033	ANALYTICAL RESULTS
403907343	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 12 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)