

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 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) 336-3500 Mobile: ()
Address: P O BOX 173779		
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Phillip Hamlin	Email: Phillip_Hamlin@oxy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 23522 Initial Form 27 Document #: 403070659

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: NFA Request

SITE INFORMATION

Yes Multiple Facilities

Facility Type: LOCATION	Facility ID: 332556	API #: _____	County Name: WELD
Facility Name: PSC-63N67W 11SWSE	Latitude: 40.233850	Longitude: -104.856680	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 11	Twp: 3N	Range: 67W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 481901	API #: _____	County Name: WELD
Facility Name: PSC-63N67W Separator Release	Latitude: 40.236063	Longitude: -104.855308	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 11	Twp: 3N	Range: 67W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CH

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

The nearest domestic water well is located approximately 625 feet south of the release location.
Surface water is located approximately 625 feet northwest of the release location.
A wetland is located approximately 1,050 feet south of the release location.

DENIED

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	GROUNDWATER	See attached data	Groundwater sampling / laboratory analysis
Yes	SOILS	106' (N-S) x 64' (E-W) x 12' bgs	Excavation / soil sampling / laboratory analysis

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

On February 23, 2022, an estimated 0.23 barrels of condensate were released to the ground surface at the PSC-63N67W (PSC 15-11) Production Facility due to a broken sight glass on the separator. During soil cleanup activities on March 18, 2022, the release became State Reportable due to observed soil impacts in contact with groundwater. Excavation activities were subsequently conducted to address remaining soil impacts, as described in a previous Form 27-Supplemental update (Document No. 403358968). Groundwater was encountered in the excavation area at approximately 6 feet below ground surface (bgs). The ECMC issued Spill/Release Point 481901 for this release.

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):

Soil samples were collected as described in a previous Form 27-Supplemental update (Document No. 403358968). Based on the data presented, impacted soils in the excavation area were remediated to be in compliance with the ECMC Table 915-1 soil standards and/or within the range of site-specific background levels. Analytical results indicate that constituent concentrations in the soil samples collected from the final excavation extents were in compliance with ECMC Table 915-1 soil standards and/or within the range of site-specific background levels.

Proposed Groundwater Sampling

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

On September 12, 2023, five (5) temporary groundwater monitoring wells (BH01 - BH05) were installed to further assess the extent of the potentially remaining groundwater impacts. Quarterly groundwater monitoring was initiated on September 25, 2023, and was continued through December 2024, until organic and inorganic constituent concentrations remained in compliance with Table 915-1 standards for four consecutive quarters. Groundwater analytical data is presented in Table 1, and the groundwater sample locations are illustrated on Figure 1. The laboratory analytical reports for the previous four quarters of groundwater monitoring are provided as attachments.

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 47
Number of soil samples exceeding 915-1 21
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 6300

NA / ND

-- Highest concentration of TPH (mg/kg) 6641
-- Highest concentration of SAR 0.781
BTEX > 915-1 Yes
Vertical Extent > 915-1 (in feet) 12

Groundwater

Number of groundwater samples collected 30
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet) 3
Number of groundwater monitoring wells installed 5
Number of groundwater samples exceeding 915-1 1

-- Highest concentration of Benzene (µg/l) 1160
-- Highest concentration of Toluene (µg/l) 5400
-- Highest concentration of Ethylbenzene (µg/l) 491
-- Highest concentration of Xylene (µg/l) 5930
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?

Four (4) background soil samples were collected from undisturbed native material adjacent to the separator excavation area, as described in a previous Form 27-Supplemental (Document No. 403358968).

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 February 23 through December 21, 2022, approximately 162 cubic yards of impacted soil slurry were removed from the excavation area via vacuum truck hydro-excavation activities and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling; approximately 3,120 cubic yards of impacted material were excavated and transported to the Front Range Landfill in Erie, Colorado for disposal; approximately 1,160 cubic yards of impacted material were excavated and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado for disposal. Approximately 20,226 barrels of impacted groundwater were removed from the excavation area via vacuum truck and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling. The excavation area was 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 results indicate that impacted soils in the excavation area have been remediated to be in compliance with ECMC Table 915-1 standards, and/or within the range of site-specific background levels. Prior to backfilling, approximately 220 pounds of OxPure® activated carbon were added to the groundwater within the excavation area, to mitigate remaining hydrocarbon impacts in groundwater.

Analytical results indicate that constituent concentrations in the groundwater samples collected from the temporary monitoring wells were in compliance with ECMC Table 915-1 standards for four consecutive quarters. Based on the analytical data presented herein, remediation is complete at this site and Kerr-McGee is requesting a No Further Action (NFA) determination at 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) _____ 4442

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # _____ 434766

_____ Natural Attenuation

No Excavate and onsite remediation

_____ Other _____

_____ Land Treatment

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Other _____

Groundwater Remediation Summary

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

No _____ Air sparge / Soil vapor extraction

Yes _____ Natural Attenuation

Yes Other _____ Groundwater removal, OxPure®
activated carbon application

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.

On September 12, 2023, 5 temporary groundwater monitoring wells (BH01 - BH05) were installed to further assess the extent of the potentially remaining groundwater impacts. Upgradient monitoring well BH03 was selected from the Fourth Quarter 2023 monitoring event as the background location for comparison to inorganic groundwater standards in Table 915-1. Analytical results for the groundwater samples collected from the temporary monitoring wells indicate that the organic constituent concentrations were in compliance with the ECMC Table 915-1 standards for four consecutive quarters. Based on a comparison to background concentrations, inorganic constituents in all of the monitoring wells were in compliance with the Table 915-1 standards for four consecutive quarters. The temporary monitoring well locations are illustrated on Figure 1 and a potentiometric surface contour map for the Fourth Quarter 2024 is presented as Figure 2. Well completion logs for the temporary monitoring wells are provided as an attachment.

The total dissolved solids (TDS) result in sample BH01 collected on December 19, 2023, was altered by a third-party from 8,300 mg/L to 830 mg/L. The original unaltered locked laboratory report (Y312590) is attached as a replacement.

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: \$ 15000

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 162 cubic yards of impacted soil slurry were removed from the excavation area via vacuum truck hydro-excavation activities and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling. Approximately 20,226 barrels of impacted groundwater were removed from the 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 4442

E&P waste (solid) description Impacted soil

ECMC Disposal Facility ID #, if applicable: 434766

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

Volume of E&P Waste (liquid) in barrels 20226

E&P waste (liquid) description 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? 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 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. 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. 03/21/2022

Actual Spill or Release date, or date of discovery. 03/18/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/23/2022

Proposed site investigation commencement. 03/21/2022

Proposed completion of site investigation. 09/12/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/23/2022

Proposed date of completion of Remediation. 12/10/2024

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:

Remediation completion date updated to last groundwater monitoring event.

OPERATOR COMMENT

Laboratory analytical results indicate that impacted soils have been remediated to be in compliance with ECMC Table 915-1 standards and/or within the site-specific background levels. Groundwater analytical results that the BTEX, naphthalene, and TMB concentrations were in compliance with the ECMC Table 915-1 standards for four consecutive quarters. Based on a comparison to site-specific background concentrations, the TDS, chloride, and sulfate concentrations were in compliance with the Table 915-1 standards for four consecutive quarters. Based on the analytical data presented herein, remediation is complete at this site and Kerr-McGee is requesting a No Further Action (NFA) determination for this release. A project implementation summary is provided as an Attachment.

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

Signed: Phillip Hamlin

Title: Senior Environmental Rep

Submit Date: 03/31/2025

Email: Phillip_Hamlin@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: 23522

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**

404122030	FORM 27-SUPPLEMENTAL-SUBMITTED
404122783	ANALYTICAL RESULTS
404122785	ANALYTICAL RESULTS
404122791	ANALYTICAL RESULTS
404122794	ANALYTICAL RESULTS
404122912	ANALYTICAL RESULTS
404140154	SITE MAP
404140157	SOIL SAMPLE LOCATION MAP
404147588	SOIL SAMPLE LOCATION MAP
404147589	SOIL SAMPLE LOCATION MAP
404147592	ANALYTICAL DATA SUMMARY TABLE(S)
404147593	ANALYTICAL DATA SUMMARY TABLE(S)
404147594	IMPLEMENTATION SCHEDULE

Total Attach: 13 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 denying this form.	07/16/2025
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Total: 1 comment(s)