

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404238042
Receive Date:
06/25/2025
Report taken by:
Nick Cholas

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: <u>KERR MCGEE OIL & GAS ONSHORE LP</u>	Operator No: <u>47120</u>	Phone Numbers
Address: <u>P O BOX 173779</u>		Phone: <u>(970) 515-1161</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>()</u>
Contact Person: <u>Phil Hamlin</u>	Email: <u>Phillip_Hamlin@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 20436 Initial Form 27 Document #: 402787685

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: <u>LOCATION</u>	Facility ID: <u>323198</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>BIERIG-UPRR-64N66W 35SENE</u>	Latitude: <u>40.270239</u>	Longitude: <u>-104.737533</u>	
	** correct Lat/Long if needed: Latitude: <u>40.269559</u>	Longitude: <u>-104.737545</u>	
QtrQtr: <u>SENE</u> Sec: <u>35</u> Twp: <u>4N</u> Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>480249</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Berig 17-35</u>	Latitude: <u>40.269641</u>	Longitude: <u>-104.737630</u>	
	** correct Lat/Long if needed: Latitude: _____	Longitude: _____	
QtrQtr: <u>SENE</u> Sec: <u>35</u> Twp: <u>4N</u> Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Irrigation Canal
and Agriculture

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

Platte Valley Ditch located approximately 75 feet (ft) to the southwest; domestic well located approximately 1,200 ft southwest; Occupied buildings located approximately 1,300 ft southwest; Groundwater at approximately 1 ft below ground surface (bgs).

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 Samples/Laboratory Analytical Results
Yes	SOILS	See attached data.	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.

On July 28, 2021, a release daylighting from the subsurface at the Berig 17-35 location was discovered. The impacted soil was discovered while performing a pressure test of the oil dumpline between the separator and the tank at the facility. Approximately 3 gallons of oil were released during the pressure test. The release was reported to the ECMC in the Form 19 Initial dated July 29, 2021 (Document No. 402732214). The volume of the release is unknown. The impacted soil was excavated.

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):

Between July 29, 2021 and June 2, 2022, soil samples were collected from the facility excavation (see Figure 1). The soil samples were field screened for total volatile organic compounds using a photoionization detector (PID). Based on PID readings, select soil samples were submitted for laboratory analysis in accordance with ECMC Rule 911.a. The impacted soil was excavated. Analytical results indicated soil was in full compliance with Table 915-1 standards, or below background, at the extents of the excavation.

Proposed Groundwater Sampling

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

On July 29, 2021, four groundwater samples were collected from the facility excavation and flowline potholes and submitted for Table 915-1 analyses. One background groundwater sample was also collected and submitted for Table 915-1 inorganic parameters. Based on the laboratory analytical results, samples GW01 and GW03 exceeded the ECMC Table 915-1 allowable levels for benzene, toluene, xylenes, 1,2,4-trimethylbenzene, and/or 1,3,5-trimethylbenzene.

Proposed Surface Water Sampling

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

On August 12, 2021, six ditch water samples (Ditch-01 through Ditch-06) and one surface water sample (SW-01) were collected and submitted for Table 915-1 organic parameters. Results were compared to ECMC Table 915-1 allowable levels for groundwater. All ditch water sample results were non-detect. Toluene was detected in surface water sample SW-01; however, the concentration of 2.57 ug/L is well below the Table 915-1 allowable level for groundwater of 560 ug/L.

Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan (summary):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 98

-- Highest concentration of TPH (mg/kg) 1468

Number of soil samples exceeding 915-1 37

-- Highest concentration of SAR 421

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

BTEX > 915-1 Yes

Approximate areal extent (square feet) 19886

Vertical Extent > 915-1 (in feet) 13

Groundwater

Number of groundwater samples collected 36

-- Highest concentration of Benzene (µg/l) 1480

Was extent of groundwater contaminated delineated? Yes

-- Highest concentration of Toluene (µg/l) 3070

Depth to groundwater (below ground surface, in feet) 1

-- Highest concentration of Ethylbenzene (µg/l) 238

Number of groundwater monitoring wells installed 8

-- Highest concentration of Xylene (µg/l) 4560

Number of groundwater samples exceeding 915-1 4

NA Highest concentration of Methane (mg/l)

Surface Water

7 Number of surface water samples collected

0 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?

One tank battery soil background soil sample and two native soil background soil samples were collected for laboratory analysis of specific conductivity (EC), sodium adsorption ratio (SAR), pH, boron, and metals. Laboratory analytical results indicated arsenic is naturally high in the soil used to construct the tank battery and the native soil.

One background groundwater sample was also collected and submitted for Table 915-1 inorganic parameters. Laboratory analytical results indicated sulfate ion is naturally high in the native groundwater.

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.

Approximately 22,828 bbls of impacted water and 140 CY of impacted soil were transported to the Aggregate Recycle Facility in Weld County, Colorado for recycling. Approximately 15,620 CY of impacted soil were transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling. Approximately 20 CY of impacted soil was transported to the Front Range Landfill in Erie, Colorado for disposal. Approximately 2,500 CY of impacted soil was transported to the Buffalo Ridge Landfill in Keenesburg, Colorado for disposal. Disposal records are kept on file and are available upon request.

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.

On May 22, 2023, eight groundwater monitoring wells were installed in order to determine the extent and magnitude of any remaining impacts. Quarterly groundwater monitoring of the newly-installed well network was initiated on June 26, 2023. Analytical results from all monitoring wells indicate that groundwater has remained in full compliance with Table 915-1 standards for organic constituents.

Soil Remediation Summary

In Situ

Ex Situ

<input type="checkbox"/> Bioremediation (or enhanced bioremediation)	Yes	Excavate and offsite disposal	
<input type="checkbox"/> Chemical oxidation		If Yes: Estimated Volume (Cubic Yards)	<u>18280</u>
<input type="checkbox"/> Air sparge / Soil vapor extraction		Name of Licensed Disposal Facility or ECMC Facility ID #	<u>149007</u>
<input type="checkbox"/> Natural Attenuation	No	Excavate and onsite remediation	
<input type="checkbox"/> 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.

Groundwater monitoring wells MW01 through MW08 were sampled on a quarterly basis for the full list of analytes for groundwater in Table 915-1. The ECMC approved the discontinuation of groundwater monitoring and the abandonment of wells MW01 through MW08 on April 23, 2025.

Per the condition of approval (COA) issued by the ECMC for Document No. 404102968, monitoring wells MW01 through MW08 were abandoned on May 22, 2025, within 90 days of report approval. The well abandonment reports submitted to the Colorado Division of Water Resources (DWR) are included as an attachment.

As such, Kerr-McGee is requesting a no further action (NFA) ruling at this location.

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 Status 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 22,828 bbls of impacted water and 140 CY of impacted soil were transported to the Aggregate Recycle Facility in Weld County, Colorado for recycling. Approximately 15,620 CY of impacted soil were transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling.

Volume of E&P Waste (solid) in cubic yards 18280

E&P waste (solid) description Impacted Soil

ECMC Disposal Facility ID #, if applicable: 149007

Non-ECMC Disposal Facility: Front Range Landfill in Erie, CO (20 CY); Buffalo Ridge Landfill in Keenesburg, CO (2,500 CY)

Volume of E&P Waste (liquid) in barrels 22828

E&P waste (liquid) description Impacted Water

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. 06/25/2025

Proposed date of completion of Reclamation. 06/25/2026

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. 08/25/2021

Actual Spill or Release date, or date of discovery. 06/28/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/28/2021

Proposed site investigation commencement. 06/28/2021

Proposed completion of site investigation. 09/05/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/28/2021

Proposed date of completion of Remediation. 05/22/2025

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 issued by the ECMC for Document No. 404102968, monitoring wells MW01 through MW08 were abandoned on May 22, 2025, within 90 days of report approval. The well abandonment reports submitted to the Colorado DWR are included as an attachment.

Based on the analytical data provided herein, assessment and remediation are 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: Phil Hamlin

Title: Senior Environmental Rep.

Submit Date: 06/25/2025

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: Nick Cholas

Date: 01/20/2026

Remediation Project Number: 20436

COA Type**Description**

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**

404238042	FORM 27-SUPPLEMENTAL-SUBMITTED
404238056	CORRESPONDENCE

Total Attach: 2 Files

General Comments**User Group****Comment****Comment Date**

Environmental	Based on the information presented, it appears that no further 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 if groundwater is found to be impacted, then further investigation and/or remediation activities may be required. In addition, the surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules.	01/16/2026
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Total: 1 comment(s)