

State of Colorado
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



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Report taken by:
Alexander Ahmadian

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 ECOM 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) 336-1152</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>()</u>
Contact Person: <u>Costin McQueen</u>	Email: <u>Costin_McQueen@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 9828 Initial Form 27 Document #: 2526907

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: <u>SPILL OR RELEASE</u>	Facility ID: <u>444878</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>SPILL/RELEASE POINT</u>	Latitude: <u>40.016982</u>	Longitude: <u>-104.955940</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWSW</u>	Sec: <u>25</u>	Twp: <u>1N</u>	Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SC 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 540 feet south-southwest of the release location.
A surface water retention pond is located approximately 960 feet south of the release location.
The nearest building is located approximately 1,285 feet southwest of the release location.

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 and laboratory analysis
Yes	SOILS	66' (E-W) x 57' (N-S) x 20' bgs	Excavation, soil sampling, and 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 13, 2016, a dump line release was discovered by an operator during routine activities at the UPRC 25-12V production facility. The facility was shut-in, affected infrastructure was removed, and excavation activities were initiated. Groundwater was encountered in the excavation area at approximately 20 feet below ground surface (bgs). The ECOM issued Spill/Release Point ID 444878 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):

17 soil grab samples were collected from the 2016 soil excavation activities and were submitted in compliance with ECOM Table 910-1.

Kerr-McGee plans to conduct a soil boring assessment to determine if soil concentrations are compliant with ECOM Table 915-1 standards.

Proposed Groundwater Sampling

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

Between June 1, 2016, and September 13, 2023, 13 groundwater monitoring wells were installed. 7 remaining active groundwater monitoring wells are sampled on a quarterly basis in compliance with ECOM Table 915-1. Groundwater samples from dedicated background monitoring well BH02 are analyzed for chloride, sulfate, and total dissolved solids (TDS) only.

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 20
Number of soil samples exceeding 915-1 4
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 3760

NA / ND

-- Highest concentration of TPH (mg/kg) 491
NA Highest concentration of SAR
BTEX > 915-1 Yes
Vertical Extent > 915-1 (in feet) 20

Groundwater

Number of groundwater samples collected 322
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet) 14
Number of groundwater monitoring wells installed 13
Number of groundwater samples exceeding 915-1 65

-- Highest concentration of Benzene (µg/l) 15300
0
-- Highest concentration of Toluene (µg/l) 10900
00
-- Highest concentration of Ethylbenzene (µg/l) 14000
0
-- Highest concentration of Xylene (µg/l) 22600
00
NA Highest concentration of Methane (mg/l)

Surface Water

0 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?

Impacted groundwater has historically been detected in off-site temporary groundwater monitoring wells BH05, BH07, BH08, and BH09.

Were background samples collected as part of this site investigation?

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.

Between March 22 and May 13, 2016, approximately 2,350 cubic yards of impacted material were excavated and transported to the Front Range Landfill in Erie, Colorado for disposal.

REMEDICATION 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.

Q2 2025 quarterly monitoring results indicate elevated Chloride remains in monitoring well BH01. All other monitoring wells were in compliance with ECMC Table 915-1 groundwater parameters. Kerr-McGee plans to conduct a soil boring assessment within the former excavation to identify if any impacted soil above Table 915-1 remains left in place. Contingent on Table 915 soil assessment results and four consecutive quarters of ECMC compliant groundwater, an estimated time frame to achieve NFA status will be July 31, 2026.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)
 _____ Chemical oxidation
 _____ Air sparge / Soil vapor extraction
 _____ Natural Attenuation
 _____ Other _____

Yes _____ Excavate and offsite disposal
 If Yes: Estimated Volume (Cubic Yards) _____ 2350
 Name of Licensed Disposal Facility or ECMC Facility ID # _____
 No _____ Excavate and onsite remediation
 _____ 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 LNAPL recovery _____

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.

7 groundwater monitoring wells (BH01, BH03, BH04, BH05, BH07, BH08, BH13) are sampled on a quarterly basis for full Table 915-1 constituents. Groundwater samples from dedicated background monitoring well BH02 are analyzed for chloride, sulfate, and total dissolved solids (TDS) only. The third-quarter 2025 monitoring results indicate that elevated chloride levels remain the only exceedances in the well network, with BH01 showing 393,000 µg/L chloride ion as of July 2024.

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 _____

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: \$ 45000 _____

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:

No beneficial use.

Volume of E&P Waste (solid) in cubic yards _____ 2350

E&P waste (solid) description _____ Impacted soil _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: _____ Front Range Landfill - Erie, CO _____

Volume of E&P Waste (liquid) in barrels _____ 0

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? No

Is additional groundwater monitoring to be conducted? Yes

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 has been restored to its pre-release grade. Kerr-McGee will conduct reclamation activities in accordance with ECMC 1000 Series Rules.

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? _____

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. 02/13/2016

Actual Spill or Release date, or date of discovery. 02/13/2016

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/13/2016

Proposed site investigation commencement. 02/13/2016

Proposed completion of site investigation. 09/13/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/22/2016

Proposed date of completion of Remediation. 07/31/2026

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:

No organic impacts have been detected in groundwater for four consecutive quarters. Only minor inorganic impacts persist in one well. The proposed remediation completion date has been revised earlier to reflect the continued monitoring of inorganic constituents and the collection of confirmation soil samples to verify compliance with Table 915-1.

OPERATOR COMMENT

Due to four consecutive quarters of groundwater samples in compliance with ECMC Table 915-1 Organics, Sulfate, and TDS, Kerr-McGee requests to amend the sampling and analysis plan to Chloride only as well as the removal of monitoring wells BH07, BH08, and BH13 as these wells have demonstrated compliance with Table 915 for four consecutive quarters.

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

Signed: Costin McQueen

Title: Senior Environmental Rep

Submit Date: 09/01/2025

Email: Costin_McQueen@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: Alexander Ahmadian

Date: 10/17/2025

Remediation Project Number: 9828

COA Type**Description**

	ECMC agrees to the removal of BH07, BH08, and BH13 from the groundwater monitoring program. If future data indicate the need for additional site characterization or establishing point of compliance, ECMC may require additional monitoring wells be returned to the program.
	ECMC agrees to the reduced analysis plan of Chloride only. If future data indicate the need for additional site characterization, ECMC may require analytes be returned to the program.
2 COAs	

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**

404311132	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404316074	SITE MAP
404316077	LABORATORY ANALYTICAL REPORT
404316078	LABORATORY ANALYTICAL REPORT
404316079	IMPLEMENTATION SCHEDULE
404337309	ANALYTICAL DATA SUMMARY TABLE(S)
404337622	GROUND WATER ELEVATION MAP
404395542	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 8 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)