

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404497799
Receive Date:

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.

Report taken by:

OPERATOR INFORMATION

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP	Operator No: 47120	Phone Numbers
Address: P O BOX 173779		Phone: (720) 929-4307
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Max Moran	Email: DJRemediation_Forms@oxy.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38231 Initial Form 27 Document #: 403987310

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: WELL	Facility ID: _____	API #: 123-16020	County Name: WELD
Facility Name: BARCLAY 2-16K	Latitude: 40.249430	Longitude: -104.738370	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 2	Twp: 3N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-30796	County Name: WELD
Facility Name: BARCLAY FARMS L 11-27D	Latitude: 40.249389	Longitude: -104.738531	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 2	Twp: 3N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>490341</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Barclay Farms L11-27D Wellhead</u>	Latitude: <u>40.249390</u>	Longitude: <u>-104.738541</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>2</u>	Twp: <u>3N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>490848</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Barclay Farms L11-27D Flowline</u>	Latitude: <u>40.247307</u>	Longitude: <u>-104.738324</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>2</u>	Twp: <u>3N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>491107</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Barclay 2-16K Flowline</u>	Latitude: <u>40.246969</u>	Longitude: <u>-104.738263</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>2</u>	Twp: <u>3N</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 Occupied Buildings

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

County Roads 970 feet (ft) east and 980 ft south. Water well 1140 ft southeast. Occupied buildings 1160 ft southwest. Agriculture.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | _____ |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	TBD	Groundwater Samples/Laboratory Analytical Results
Yes	SOILS	TBD	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 Barclay 2-16K and Barclay Farms L11-27D wellheads on 1/24 and 5/5/2025. Groundwater was not encountered during wellhead cut and cap operations. Visual inspection and field screening of soil around the wellheads and associated pumping equipment were conducted following cut and cap operations. Soil samples [B01(2-16K)@6' and B01(L11-27D)@6'] were submitted for analysis of full list ECMC Table 915-1 constituents, to determine if a release occurred. The flowlines associated with the wellheads were removed between 5/5 and 6/9/2025 and soil samples were collected from where the flowlines were disconnected from the wellheads [WH-RISER(L11-27D)@5' and WH-RISER(2-16K)@4'] and from the separator [SEP01-Riser(2-16K-L02-16JI)@3'], and from where the flowlines changed directions [FL01(2-16K,L11-27D)@4']. Due to an error the L11-27D separator riser sample was never analyzed by the lab. The separator inlet sample associated with the Barclay Farms L11-27D Facility Rem No. 39857, that was collected from the same location, will be used in place of the separator riser sample. The samples were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Laboratory analytical results indicated that polycyclic aromatic hydrocarbon (PAH) impacts exceeding the Table 915-1 allowable levels were present at the WH-RISER(L11-27D), SEP01-Riser(2-16K-L02-16JI), and the FL01(2-16K,L11-27D) locations. As such, Form 19 Initials (Doc#s 404218820, 404231299, and 404264671) were submitted on 5/29, 6/6, 7/18/2025 and the ECMC issued Spill/Release Point IDs 490341, 490848, and 491107.

Excavation activities are pending and details will be provided in a subsequent Form 27 supplemental report.

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 1/24 and 6/9/2025, soil samples were collected from the wellhead excavations, from where the flowlines were disconnected from the wellheads and from the separators, and from where the flowlines changed directions at depths ranging from 3 to 6 ft below ground surface (bgs). Due to an error the L11-27D separator riser sample was never analyzed by the lab. The separator inlet sample associated with the Barclay Farms L11-27D Facility Rem No. 39857, that was collected from the same location, will be used in place of the separator riser sample. The samples were submitted for analysis of full Table 915-1 constituents, using ECMC approved methods. Laboratory analytical results indicated that PAH impacts exceeding the Table 915-1 allowable levels were present at the WH-RISER(L11-27D), SEP01-Riser(2-16K-L02-16JI), and the FL01(2-16K,L11-27D) locations. Excavation activities are pending.

Proposed Groundwater Sampling

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

Groundwater was not encountered during wellhead cut and cap or flowline removal activities.

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):

Between 1/24 and 6/9/2025, visual inspection and field screening of soil were conducted at eight sidewall locations within the cut and cap excavation areas and eight locations at the ground surface adjacent to the cut and cap excavation areas, and twenty-three flowline potholes. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the screening locations, and no soil samples were submitted for laboratory analysis from these areas, in accordance with the ECMC Operator Guidance.

On 2/6 and 5/13/2025, soil gas surveys were conducted at ten soil vapor points installed adjacent to the former wellhead locations following cut and cap operations. GEM 5000 field readings were all non-detect for methane at all soil vapor points.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 7

ND Highest concentration of TPH (mg/kg) _____

Number of soil samples exceeding 915-1 7

-- Highest concentration of SAR 1.15

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

BTEX > 915-1 No

Approximate areal extent (square feet) 641

Vertical Extent > 915-1 (in feet) 5

Groundwater

Number of groundwater samples collected 0

_____ Highest concentration of Benzene (µg/l) _____

Was extent of groundwater contaminated delineated? No

_____ Highest concentration of Toluene (µg/l) _____

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

_____ Highest concentration of Ethylbenzene (µg/l) _____

Number of groundwater monitoring wells installed _____

_____ Highest concentration of Xylene (µg/l) _____

Number of groundwater samples exceeding 915-1 _____

_____ 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?

[Empty text box]

Were background samples collected as part of this site investigation?

Sixteen background soil samples (NATIVE-BG01@3' through NATIVE-BG08@3' and NATIVE-BG01@6' through NATIVE-BG08@6') were collected from the native material outside of the wellhead excavation areas. Eight background samples were also collected as part of the Barclay Farms L 02-16Jl Wellhead cut and cap activities (Remediation No. 38229), located approximately 710 ft southeast, from similar depths (3' and 6' bgs), the same land use, and NRCS soil type (Sandy Loam). The background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and ECMC Table 915-1 metals, using ECMC approved methods. Analytical results indicate that pH, arsenic, barium, hexavalent chromium, lead, and selenium are naturally high in the native soil.

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?

Excavation activities are pending and details will be provided in a subsequent Form 27 supplemental report.

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.

Impacted soil from the wellhead cut and cap and flowline pothole excavations will be removed and transported to a licensed disposal facility. Final disposal information will be provided upon completion of assessment activities. Disposal records will be kept on file and available upon request. The excavation areas will be backfilled and contoured to match pre-existing 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 data indicate that PAH impacts exceeding the Table 915-1 allowable levels are present at the WH-RISER(L11-27D), SEP01-Riser(2-16K-L02-16Jl), and the FL01(2-16K,L11-27D) locations. Groundwater was not encountered during wellhead cut and cap activities or flowline removal activities. Excavation activities are pending and details will be provided in a subsequent Form 27 supplemental report.

Soil Remediation Summary

In Situ

Ex Situ

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

- _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____
- _____ Name of Licensed Disposal Facility or ECMC Facility ID # _____
- _____ Excavate and onsite remediation
- _____ 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 _____

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: \$ 15000 _____

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? _____

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

REMEDATION 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? _____

Does the previous reply indicate consideration of background concentrations? _____

Does Groundwater meet Table 915-1 standards? _____

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.

Is the described reclamation complete? _____

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. 07/02/2025

Actual Spill or Release date, or date of discovery. 07/01/2025

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/24/2025

Proposed site investigation commencement. 01/24/2025

Proposed completion of site investigation. 05/07/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/24/2025

Proposed date of completion of Remediation. 05/07/2026

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:

OPERATOR COMMENT

No additional work has been done since the previous Form 27 submitted on 10/16/2025 (Document No. 404366335). Additional assessment at this location is pending. As such, none of the previous attachments have been included with this form. The implementation schedule has been updated.

KMOG has a large number of active remediation projects and is working diligently to bring each project to closure. These projects are prioritized based on potential environmental risk; considering factors such as size of impact, type of impact, what media is impacted, proximity to sensitive receptors and land use. Due to this prioritization, no field work has been completed on this project since the previous Form 27 submittal. Field work is anticipated to resume on the project by May 2026.

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

Signed: Max Moran

Title: Environmental Advisor

Submit Date: _____

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: 38231

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

--	--

Total Attach: 0 Files

General Comments

User Group

Comment

Comment Date

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)