

State of Colorado
Energy & Carbon Management Commission

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404324691
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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 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>(720) 929-4306</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>()</u>
Contact Person: <u>Erik Mickelson</u>	Email: <u>DJRemediation_Forms@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 16278 Initial Form 27 Document #: 402575099

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>WELL</u>	Facility ID: _____	API #: <u>123-10185</u>	County Name: <u>WELD</u>
Facility Name: <u>ELLANORA M ACKERSON GAS UNIT</u>	Latitude: <u>40.075906</u>	Longitude: <u>-104.853925</u>	
2		** correct Lat/Long if needed: Latitude: _____ Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>2</u>	Twp: <u>1N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>479697</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Ackerson, Ellanora M GU 2</u>	Latitude: <u>40.075916</u>	Longitude: <u>-104.853929</u>	
		** correct Lat/Long if needed: Latitude: _____ Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>2</u>	Twp: <u>1N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Agriculture and Surface Water

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

Brantner Ditch located approximately 100 feet (ft) west; Water well located approximately 750 ft west-northwest; Occupied buildings approximately 750 ft west-northwest; Groundwater at approximately 8 ft below ground surface (ft 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
No	GROUNDWATER	N/A	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 March 16, 2021, historically impacted soil was discovered in the wellhead excavation following the cut and cap of the Ackerson Ellanora M GU 2 wellhead and excavation activities were conducted. The ECMC issued Spill/Release Point ID 479697 for this release. Non-impacted groundwater was encountered in the excavation at approximately 8 ft bgs.

Wellhead cut and cap and flowline removal activities were completed between March 22, 2021 and April 12, 2021. Soil investigation details were submitted in the Form 27 dated April 18, 2022 (Document No. 402974682) which was approved by the ECMC on April 18, 2021 with one condition of approval (COA) that stated that four quarters of groundwater monitoring be conducted. No additional soil investigation was required at the time and the ECMC agreed at the time that all soil met Table 915-1 standards, as submitted and approved in the Remediation Completion Summary section of the form. Soil samples were not collected where the flowline risers were disconnected from the wellhead and from the separator as both locations were previously excavated.

Per the general comments issued by the ECMC for denied Form 27 Doc. No. 403810170, additional soil samples were collected on April 2, 2025 at the sidewalls of the former cut and cap excavation and where the flowline changed directions. The flowline sample was submitted for full list Table 915-1 constituents to determine if a release occurred. The sidewall samples were submitted for laboratory analysis of lead, 1-methylnaphthalene, and 2-methylnaphthalene, per the general comment for Doc. No. 403810170 except for the northern and western sidewall samples which were inadvertently analyzed for additional Table 915-1 metals. Laboratory analytical results indicate that soil is in compliance with Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. The wellhead and flowline are depicted on Figure 1. The PID readings and soil results are summarized in Tables 1 and 2.

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 2/22 and 4/12/21, excavation activities were conducted to address the soil polycyclic aromatic hydrocarbon (PAH) impacts at the former wellhead. One soil sample was collected from the base of the excavation at 11 ft bgs. The sample was submitted for analysis of the site-specific waste profile developed and accepted at the time of sampling. Results indicated that soil at the base of the excavation was in compliance. Per the general comments issued by the ECMC for denied Form 27 Doc. No. 403810170, additional soil samples were collected on April 2, 2025 at the sidewalls of the former cut and cap excavation. The samples were submitted for laboratory analysis of lead, 1-methylnaphthalene, and 2-methylnaphthalene, per the general comment for Doc. No. 403810170 except for the northern and western sidewall samples which were inadvertently analyzed for additional Table 915-1 metals. Results indicate that soil is in compliance with allowable levels or background levels x1.25 for metals.

Proposed Groundwater Sampling

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

Non-impacted groundwater was encountered in the wellhead cut and cap excavation at approximately 8 feet bgs. On February 22, 2021, one groundwater sample was collected from the wellhead excavation for Table 915-1 analyses. One background groundwater sample was collected on April 8, 2021 and submitted for Table 915-1 inorganic parameters. Based on the laboratory analytical results and the comparison to the background concentrations of inorganic parameters, groundwater concentrations for all samples were in full compliance with ECMC Table 915-1 allowable levels. Groundwater analytical results are summarized in Table 3.

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 12
Number of soil samples exceeding 915-1 9
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 225

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 5.33
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 11

Groundwater

Number of groundwater samples collected 26
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 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?

Six background soil samples were collected outside of the wellhead cut and cap excavation. Six samples collected during monitoring well installation at this location and the associated Ackerson Ellanora M GU 2 facility (Rem. No. 16127), located 100 ft southwest, from similar depths (2 ft bgs), and NRCS soil type (sandy loam), are also being applied as background data due to the lack of organic detections in the samples and the locations outside of the delineated excavations. The samples were submitted for laboratory analysis of pH, specific conductivity (EC), sodium adsorption ration (SAR), boron, and Table 915-1 metals, using ECMC-approved methods. Laboratory analytical results indicated that levels of SAR, pH, arsenic, barium, cadmium, hexavalent chromium, lead, and selenium are naturally high in the soil.

One background groundwater sample was also collected and submitted for Table 915-1 inorganic parameters.

The background samples locations are depicted on Figure 2.

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 35 barrels of non-impacted water were removed from the site and transported to Aggregate Recycle Facility (ARF) in Weld County, Colorado, for recycling. Approximately 180 cubic yards of impacted soil were removed from the site and transported to Front Range Landfill in Erie, Colorado, for disposal. Disposal records are kept on file and available upon request. The excavation areas have been 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 analytical results indicate that soil at the final excavation extents is within the Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. Groundwater was encountered in the cut and cap excavation at approximately 8 ft bgs. Groundwater was in compliance with Table 915-1 allowable levels. On July 21 and July 28, 2023, five groundwater monitoring wells were installed in order to continue to monitor clean groundwater, as required by the COA issued by the ECOM for a previous Form 27-Supplemental (Document No. 402974682). Quarterly groundwater monitoring of the well network was initiated on August 9, 2023. As of the May 2024 quarterly monitoring event, all monitoring wells were in compliance with the ECOM Table 915-1 and WQCC allowable levels for four quarters. In addition, no Table 915-1 organic constituents were detected above the laboratory reporting limits in groundwater at the Site to date. The ECOM approved Kerr-McGee's request to discontinue groundwater monitoring on November 8, 2024. Based on the analytical and soil screening data presented herein, assessment is complete at this site and no further activities are required. As such, KMOG 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) _____ 180

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECOM Facility ID # _____

_____ Natural Attenuation

_____ 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.

Groundwater monitoring wells MW01 through MW05 were previously sampled on a quarterly basis for benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, and lead, as approved in the Form 27 supplemental report dated February 10, 2023 (Document No. 403312119).

As of the May 2024 quarterly monitoring event, all monitoring wells were in compliance with the ECOM Table 915-1 and WQCC allowable levels for four quarters. In addition, no Table 915-1 organic constituents were detected above the laboratory reporting limits in groundwater at the Site to date. The ECOM approved Kerr-McGee's request to discontinue groundwater monitoring on November 8, 2024.

REMEDATION 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 Energy and Carbon 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 35 barrels of non-impacted water were removed from the site and transported to Aggregate Recycle Facility (ARF), for recycling.

Volume of E&P Waste (solid) in cubic yards _____ 180

E&P waste (solid) description Historically Impacted Soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Front Range Landfill in Erie, Colorado

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

E&P waste (liquid) description _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: _____

REMEDATION COMPLETION REPORT

REMEDATION 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 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. 08/21/2025

Proposed date of completion of Reclamation. 08/21/2026

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. 03/17/2021

Actual Spill or Release date, or date of discovery. 03/16/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/22/2021

Proposed site investigation commencement. 02/22/2021

Proposed completion of site investigation. 04/02/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/22/2021

Proposed date of completion of Remediation. 04/02/2025

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

Based on the analytical and soil screening data provided herein, assessment is 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: Erik Mickelson

Title: Environmental Lead

Submit Date: 08/26/2025

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: Alexander Ahmadian

Date: 10/07/2025

Remediation Project Number: 16278

COA Type**Description**

	Operator shall abandon the monitoring wells in accordance with DWR regulations within 90 days of the approval of this Form 27.
	Based on the information presented, it appears that no further remedial 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. This no further action determination is limited to environmental remediation. Operator is required to comply with ECMC 1100 Series Rules for Flowline Regulations for all Flowline Abandonment activities and ECMC 400 Series Rules for Wellhead Plugging and Abandonment. The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.
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**

404324691	FORM 27-SUPPLEMENTAL-SUBMITTED
404324710	LOGS
404324711	PHOTO DOCUMENTATION
404324712	LABORATORY ANALYTICAL REPORT
404324713	LABORATORY ANALYTICAL REPORT
404324714	LABORATORY ANALYTICAL REPORT
404324715	LABORATORY ANALYTICAL REPORT
404324716	LABORATORY ANALYTICAL REPORT
404324717	LABORATORY ANALYTICAL REPORT
404324718	LABORATORY ANALYTICAL REPORT
404324719	SITE MAP
404324720	GROUND WATER ELEVATION MAP
404324721	GROUND WATER ELEVATION MAP
404324722	GROUND WATER ELEVATION MAP
404324723	GROUND WATER ELEVATION MAP
404324724	SOIL SAMPLE LOCATION MAP

404324725	SOIL SAMPLE LOCATION MAP
404326158	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 18 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)