

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
403983818  
Receive Date:  
01/07/2025

Report taken by:  
Laurel Anderson

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) 515-1110 Mobile: ( )
Address: P O BOX 173779		
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Macy Kiel	Email: DJRemediation_Forms@oxy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27567 Initial Form 27 Document #: 403305355

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: LOCATION	Facility ID: 310674	API #: _____	County Name: WELD
Facility Name: MEGAN H16-99HZ	Latitude: 40.221687	Longitude: -104.677196	
** correct Lat/Long if needed: Latitude: 40.220815		Longitude: -104.677426	
QtrQtr: SWSW	Sec: 16	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 484373	API #: _____	County Name: WELD
Facility Name: UPRC H17-99HZ O SA Tank Battery	Latitude: 40.220815	Longitude: -104.677426	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 16	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Crop Land

Is domestic water well within 1/4 mile? No

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**

Domestic water well: none  
Surface water: none  
Wetlands: none  
Spring: none  
Livestock: none  
Occupied Building: none  
High Priority Habitats: none

**DENIED**

# 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
Yes	GROUNDWATER	TBD	Groundwater samples/laboratory analytical results
Yes	SOILS	60' (N-S) x 60' (E-W) x 35' bgs	Inspection/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.

Decommissioning activities were completed at the UPRC H17-99HZ O SA production facility on April 18 through 28, 2023. Groundwater was encountered at approximately 32' below ground surface (bgs) during excavation activities. Visual inspection and field screening of soils at two separators, two meter houses, two produced water vessels (PWV), two emission control devices (ECD), and three aboveground storage tanks (AST) were conducted following removal activities and soil samples (SEP-B01@4', SEP-B02@4', SEP-B03@4', SEP-B04@4', PW-B01@5', PW-N01@3', PW-B02@5', PW-W02@3', AST-B02@3", AST-B03@3", AST-B05@3") were submitted for laboratory analysis to determine if a release occurred. Laboratory analytical results indicated that the TPH, naphthalene, TMBs, 1,2-methylnaphthalene, and/or barium concentrations in the PWV and separator soil samples exceeded the applicable ECMC Table 915-1 standards and/or background limits. As such, a Form 19-Initial Spill/Release Report (Document No. 403382071) was submitted on April 25, 2023, and the ECMC issued Spill/Release Point ID 484373. A topographic Site Location Map showing the geographic setting of the site location is provided as Figure 1. Soil sample location and field screening data is presented in Table 1. The facility soil sample and field screening locations are illustrated on Figures 2 through 6. The laboratory analytical reports are attached. The field notes and a photographic log are provided as Attachment B.

## 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 ):

From May 5, 2023 through May 17, 2024, excavation activities were completed to address the soil impacts at the former PWVs and separators. Soil samples were collected from the base and sidewalls of the final excavation extent at depths of approximately 2.5' to 35' bgs. Based on the results for waste characterization (PW-B01@5'), the PWV confirmation samples were submitted for analysis of ethylbenzene, total xylenes, TPH, naphthalene, TMBs, PAHs, and Table 915-1 Metals using ECMC approved methods. The separator confirmation samples were submitted for analysis of BTEX, TPH, naphthalene, TMBs, PAHs, and metals. Final analytical results indicate that the soils samples collected from the final PWV and separator excavation extents were in compliance with Table 915-1 standards and/or background limits. Soil analytical results are summarized on Tables 2 through 5.

### Proposed Groundwater Sampling

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

Groundwater was encountered in the PWV excavation at approx. 32' bgs. On October 11, 2023, a groundwater sample was collected from the PWV excavation (GW-01) and submitted for laboratory analysis of BTEX, naphthalene, and TMBs by USEPA Method 8260D as approved in the Form 27-Initial (Document No. 403305355). Analytical results indicated that the benzene concentration in GW-01 exceeded the Table 915-1 standard as summarized in Table 6. The groundwater sample location is illustrated in Figure 4. Future groundwater samples will be submitted for the ECMC Table 915-1 groundwater analytical suite.

### 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 ):

On April 18 through 28, 2023, visual inspection and field screening of soils was conducted at soils at two meter houses, six sidewalls of two produced water vessels (PWV), two emission control devices (ECD), and three aboveground storage tanks (AST). Based on the inspection and screening results, no soil samples were submitted from these areas in accordance with ECMC Operator Guidance.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil		NA / ND	
Number of soil samples collected	76	--	Highest concentration of TPH (mg/kg) 1164.2
Number of soil samples exceeding 915-1	76	--	Highest concentration of SAR 3.23
Was the areal and vertical extent of soil contamination delineated?	No		BTEX > 915-1 No
Approximate areal extent (square feet)	3600		Vertical Extent > 915-1 (in feet) 35
<b>Groundwater</b>			
Number of groundwater samples collected	1	--	Highest concentration of Benzene (µg/l) 16.6
Was extent of groundwater contaminated delineated?	No	--	Highest concentration of Toluene (µg/l) 3.64
Depth to groundwater (below ground surface, in feet)	32	--	Highest concentration of Ethylbenzene (µg/l) 6.78
Number of groundwater monitoring wells installed	0	--	Highest concentration of Xylene (µg/l) 84.5
Number of groundwater samples exceeding 915-1	1	NA	Highest concentration of Methane (mg/l)
<b>Surface Water</b>			
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?

Background soil samples PW-BG05@13'-PW-BG07@13' and PW-BG05@20'-PW-BG07@20' were collected from non-impacted native material (vona loamy sand) adjacent to the facility. Additionally, background soil samples were collected from non-impacted native material from similar soil type (vona loamy sand), depth, and land use adjacent to the Megan State H15-32D,33D O SA facility and UPRC H17-99HZ wellhead (located within approximately 1000', vona loamy sand) are included. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters and Table 915-1 metals using standard methods appropriate for detecting target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 3 and 5. The background sample locations are presented in Figures 2, 6, 7, and 8.

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?

Groundwater monitoring wells will be installed at the site to fully define the extent and magnitude of the remaining groundwater impacts. The temporary groundwater monitoring wells will be sampled on a quarterly basis and submitted for laboratory analysis of the ECOM Table 915-1 groundwater analytical suite.

## 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 April 28, 2023 through May 17, 2024, approximately 2,350 cubic yards of impacted material were excavated and transported to the Buffalo Ridge Landfill, located in Keenesburg, Colorado for disposal; approximately 1,990 cubic yards of impacted material were excavated and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling. Final analytical results indicate that the soils samples collected from the final PWV and separator excavation extents were in compliance with Table 915-1 standards and/or background limits. The excavation areas will be backfilled and contoured to match pre-existing conditions.

## REMIATION 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.

Final analytical results indicate that the soils samples collected from the final PWV and separator excavation extents were in compliance with Table 915-1 standards and/or background limits. Groundwater monitoring wells will be installed at the site to fully define the extent and magnitude of the remaining groundwater impacts. Estimated time to attain NFA is TBD based on the groundwater concentrations, the extent of impacted groundwater, and the efficacy of the selected remedial technologies.

**Soil Remediation Summary**

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 4340

\_\_\_\_\_ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_ 149007

\_\_\_\_\_ 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

\_\_\_\_\_ 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 will be installed at the site to fully define the extent and magnitude of the remaining groundwater impacts. Based on the remaining benzene groundwater impacts in the wellhead excavation area, the temporary groundwater monitoring wells will be sampled on a quarterly basis and submitted for laboratory analysis of the ECMC Table 915-1 groundwater analytical suite. A groundwater monitoring location figure illustrating the locations of the surveyed temporary monitoring wells will be provided in a Form 27-Supplemental update.

# 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 ECMC. 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: \$ 19500 \_\_\_\_\_

## 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 1,990 cubic yards of impacted material were excavated and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling.

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 4340

E&P waste (solid) description \_\_\_\_\_ Impacted soil

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_ 149007

Non-ECMC Disposal Facility: \_\_\_\_\_ Buffalo Ridge Landfill, located in Keenesburg, 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: \_\_\_\_\_

## 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? \_\_\_\_\_

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 reseeded 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 Remediation 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. 01/17/2023

Actual Spill or Release date, or date of discovery. 04/24/2023

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/18/2023

Proposed site investigation commencement. 04/18/2023

Proposed completion of site investigation. 03/31/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/24/2023

Proposed date of completion of Remediation. 03/31/2026

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:

\_\_\_\_\_

**OPERATOR COMMENT**

In response to the COA on the previous Form 27-Supplemental (Document #403859405), additional background soil samples were collected and final analytical results indicate that the soils samples collected from the final PWV and separator excavation extents are in compliance with Table 915-1 standards and/or background limits. Future groundwater samples will be analyzed for ECMC Table 915-1 organics and inorganics.

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

Signed: Macy Kiel

Title: Environmental Engineer

Submit Date: 01/07/2025

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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 27567

**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**

403983818	FORM 27 DENIED
403994163	PHOTO DOCUMENTATION
403994164	SITE MAP
403994165	SOIL SAMPLE LOCATION MAP
403994550	SOIL SAMPLE LOCATION MAP
403994553	SOIL SAMPLE LOCATION MAP
403994558	SOIL SAMPLE LOCATION MAP
403994562	ANALYTICAL RESULTS
403994567	ANALYTICAL RESULTS
403994568	ANALYTICAL RESULTS
403994571	ANALYTICAL RESULTS
403994573	ANALYTICAL RESULTS
403994579	ANALYTICAL RESULTS
403994581	ANALYTICAL RESULTS
403994586	ANALYTICAL RESULTS
403994589	ANALYTICAL RESULTS
403994593	ANALYTICAL RESULTS
403994595	ANALYTICAL RESULTS
403994599	ANALYTICAL RESULTS
403994602	ANALYTICAL RESULTS
403994606	ANALYTICAL RESULTS
403994608	ANALYTICAL RESULTS
403994613	ANALYTICAL RESULTS
403994615	ANALYTICAL RESULTS
403994616	ANALYTICAL RESULTS
403994623	SOIL SAMPLE LOCATION MAP

403994627	SOIL SAMPLE LOCATION MAP
403994641	ANALYTICAL RESULTS
403994744	SOIL SAMPLE LOCATION MAP
404170332	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 30 Files

**General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Environmental	This form is denied because one more of the attached laboratory analytical reports is not secured. ECMC has not reviewed this form or any other attachments on this Form. Operator shall resubmit the Form 27 and ensure all laboratory reports are secured and contain metadata appropriate to document any differences in created and modified dates, and/or the laboratory analytical report shall be signed with a validated signature certificate.	04/18/2025

Total: 1 comment(s)

