

State of Colorado  
Energy & Carbon Management Commission

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Receive Date:  
09/19/2024  
Report taken by:  
Taylor Robinson

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 &amp; GAS ONSHORE LP</u>	Operator No: <u>47120</u>	<b>Phone Numbers</b>
Address: <u>P O BOX 173779</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Phone: <u>(970) 515-1110</u>
	Zip: <u>80217-3779</u>	Mobile: <u>( )</u>
Contact Person: <u>Macy Kiel</u>	Email: <u>DJRemediation_Forms@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 24902 Initial Form 27 Document #: 403147903

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>330065</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>PSC-63N67W 10SWNE</u>	Latitude: <u>40.240610</u>	Longitude: <u>-104.876210</u>	
	** correct Lat/Long if needed: Latitude: <u>40.240372</u>	Longitude: <u>-104.876307</u>	
QtrQtr: <u>SWNE</u>	Sec: <u>10</u>	Twp: <u>3N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>483063</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>PSC 32-10 O SA tank battery</u>	Latitude: <u>40.240372</u>	Longitude: <u>-104.876307</u>	
	** correct Lat/Long if needed: Latitude: _____	Longitude: _____	
QtrQtr: <u>SWNE</u>	Sec: <u>10</u>	Twp: <u>3N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

## SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use crop land

Is domestic water well within 1/4 mile? No

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**

Domestic water well: none

Surface water: approximately 550' E and 660' NE

Wetlands: multiple areas with wetland characteristics within 1/4 mile

Spring: none

Livestock: none

Occupied Building: multiple occupied buildings within 1/4 mile

High Priority Habitats: within Mule Deer Severe Winter Range; within 1/4 mile of the boundary of Mule Deer Migration Corridor and Bald Eagle Roost Site

# 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	Groundwater not encountered	Groundwater samples/laboratory analytical results
Yes	SOILS	28' (N-S) x 15' (E-W) x 8' 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 PSC 32-10 O SA production facility on September 28, 2022. Groundwater was not encountered during excavation activities. Visual inspection and field screening of soils at one separator, one produced water vessel (PWV), one above-ground storage tank (AST), one meter house, and three dumphine removal pothole excavation areas was conducted following removal activities, and soil samples (SEP-B01@3", SEP-B02@3", PW-N01@3', PW-B01@5', and AST-B02@3") were submitted for laboratory analysis to determine if a release occurred. Laboratory analytical results indicated that benzene, toluene, naphthalene, 1,2,4-trimethylbenzene (TMB), 1,3,5-TMB, total petroleum hydrocarbons (TPH), 1-methylnaphthalene, 2-methylnaphthalene, pH, SAR, and/or arsenic concentrations in soil samples PW-B01@5' and PW-N01@3' exceeded the applicable ECMC Table 915-1 standards and/or background limits. As such, a Form 19-Initial/Supplemental Spill/Release Report (ECMC Document No. 403183969) was submitted on October 3, 2022 and the ECMC issued Spill/Release Point ID 483063. 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 and 3. The field notes and a photographic log are provided as Attachment A. The laboratory analytical results are attached.

## 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 September 28, 2022 through August 6, 2024, excavation activities were conducted to address remaining soil impacts in the former PWV excavation area, and 12 confirmation/verification soil samples were collected from the final excavation extent and submitted for laboratory analysis of benzene, toluene, naphthalene, 1,2,4-TMB, 1,3,5-TMB, TPH, 1,2-methylnaphthalene, pH, SAR, and/or arsenic using ECMC-approved methods. Analytical results indicate that constituent concentrations in the confirmation/verification soil samples were in compliance with ECMC Table 915-1 standards and/or within background limits. Soil analytical results are summarized in Tables 1 through 5.

### Proposed Groundwater Sampling

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

Groundwater was not encountered during decommissioning or excavation 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 ):

On September 28, 2022, visual inspection and field screening of soils was conducted at the sidewalls of the PWV excavation, one former meter house, one former AST, and 3 dumphine removal pothole excavation areas. Based on the inspection and screening results, hydrocarbon-impacted soils were not observed at the soil screening locations. As a result, no soil samples were submitted for laboratory analysis from these areas in accordance with the ECMC Operator Guidance for Oil & Gas Facility Closure document.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 17

Number of soil samples exceeding 915-1 13

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

Approximate areal extent (square feet) 420

### NA / ND

-- Highest concentration of TPH (mg/kg) 688

-- Highest concentration of SAR 11.1

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 8

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) \_\_\_\_\_

Number of groundwater monitoring wells installed \_\_\_\_\_

Number of groundwater samples exceeding 915-1 \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Benzene (µg/l) \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Toluene (µg/l) \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_

\_\_\_\_\_ Highest concentration of Xylene (µg/l) \_\_\_\_\_

\_\_\_\_\_ 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?

Background soil samples PW-BG01 - PW-BG08 were collected from non-impacted native material adjacent to the tank battery. However, samples PW-BG01 and PW-BG03 were collected from areas on-location and have been removed from applicable data. Background soil samples from the PSC 32-10 wellhead (located approximately 80' N on the same pad) have been included. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters and/or Table 915-1 Metals in Soils using standard methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 3 and 5. The background soil sample locations are illustrated on Figures 2 through 4.

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 September 28 and October 28, 2022, approximately 40 cubic yards of impacted soil was excavated and transported to the Front Range Landfill in Erie, Colorado, for disposal; approximately 60 cubic yards of impacted soil was excavated and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling. The excavation area 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 impacted soils in the excavation have been remediated to be in compliance with the ECMC Table 915-1 standards and/or within background limits. Groundwater was not encountered during decommissioning or excavation activities. Based on the analytical and soil screening data presented herein, assessment is complete at this site and no further activities are required. As such, Kerr McGee 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) \_\_\_\_\_ 100

\_\_\_\_\_ 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

\_\_\_\_\_ 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 NFA 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 Oil and Gas Conservation 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 60 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 \_\_\_\_\_ 100

E&P waste (solid) description impacted soil

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

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: \_\_\_\_\_

# 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. 11/17/2024

Proposed date of completion of Reclamation. 12/17/2024

## 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. 06/29/2022

Actual Spill or Release date, or date of discovery. 09/30/2022

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/28/2022

Proposed site investigation commencement. 09/28/2022

Proposed completion of site investigation. 08/15/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/30/2022

Proposed date of completion of Remediation. 10/28/2022

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 conditions of approval (COAs) issued in the previous Form 27-Supplemental (Document No. 403240628), submitted to the ECMC on August 10, 2023, background soil samples PW-BG01 and PW-BG03 have been removed from applicable data. Additional background soil samples were collected from locations sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, from similar depths, and soil horizons or lithologic materials. Based on data from the additional background soil samples collected, the arsenic concentrations in the soil samples collected from the PWV excavation area are all within range of native background limits.

Additional figures have been included to illustrate all sample locations collected to date.

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

Signed: Macy Kiel

Title: HSE Advisor

Submit Date: 09/19/2024

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: Taylor Robinson

Date: 11/20/2024

Remediation Project Number: 24902

**COA Type****Description**

	<p>Based on the information presented, it appears that no further action is necessary at this time and the ECMC approves the closure request. However, if 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.</p> <p>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.</p>
1 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.

<b>Att Doc Num</b>	<b>Name</b>
403924094	INVESTIGATION/REMEDICATION WORKPLAN (SUPPLEMENTAL)
403924550	PHOTO DOCUMENTATION
403924568	SITE MAP
403924571	SOIL SAMPLE LOCATION MAP
403924575	SOIL SAMPLE LOCATION MAP
403924581	SOIL SAMPLE LOCATION MAP
403924586	ANALYTICAL RESULTS
403924593	ANALYTICAL RESULTS
403924598	ANALYTICAL RESULTS
403924602	ANALYTICAL RESULTS
403924607	ANALYTICAL RESULTS
403924610	ANALYTICAL RESULTS
403924617	ANALYTICAL RESULTS
404001700	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 14 Files

## General Comments

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

Total: 0 comment(s)