

State of Colorado  
Energy & Carbon Management Commission

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404001472  
Receive Date:  
12/06/2024

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	<b>Phone Numbers</b>
Address: P O BOX 173779		Phone: (970) 515-1110
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Macy Kiel	Email: DJRemediation_Forms@oxy.com	Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35444 Initial Form 27 Document #: 403704266

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: TANK BATTERY	Facility ID: 486704	API #: _____	County Name: WELD
Facility Name: HUDSON 12-26A EICHTH FACILITY TB	Latitude: 40.104912	Longitude: -104.636135	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 26	Twp: 2N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 487258	API #: _____	County Name: WELD
Facility Name: Hudson 12-26A/Eichth Facility	Latitude: 40.104957	Longitude: -104.636320	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 26	Twp: 2N	Range: 65W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Rangeland

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**

County Road 1,010 feet (ft) south. No other potential receptors were identified within 1/4 mile of the 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
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.

Decommissioning activities were completed at the Husdon 12-26A, Eichth Facility on June 21, 2024. Groundwater was not encountered during excavation activities. Visual inspection and field screening of soil at one aboveground storage tank (AST), one produced water vessel (PWV), one emission control device (ECD), two meter houses, three potholes, and one separator were conducted following removal activities, and soil samples (AST01@0.5', PWV-W01@3', PWV-B01@5', SEP01-INLET@5', and SEP01-OUTLET@5') were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Laboratory analytical results indicated that benzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene (TMBs), polycyclic aromatic hydrocarbon (PAH), pH, arsenic, barium, cadmium, and/or chromium impacts exceeding the ECMC Table 915-1 allowable levels or site-specific background levels were present at the former AST and PWV locations. A verification sample was collected at the AST01@0.5' location and confirmed the initial benzo(a)anthracene exceedance. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403834238) was submitted on June 27, 2024 and the ECMC issued Spill/Release Point ID 487258. The facility soil sample locations are depicted on Figure 1. The PID readings and soil sample results are summarized in Tables 1 and 2, respectively.

## 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 June 21 and July 31, 2024, excavation activities were conducted to address remaining soil impacts at the former AST and PWV locations. Confirmation soil samples were collected from the base of the AST excavation at a depth of 2 feet below ground surface (ft bgs), and from the base and sidewalls of the PWV excavation at depths of 8 ft bgs and 5 ft bgs, respectively. Laboratory analytical results indicated that soil at the final extents of the excavation is within the ECMC Table 915-1 allowable levels or within background levels. The analytical reports are attached.

### Proposed Groundwater Sampling

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

Groundwater was not encountered during facility decommissioning 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 June 21, 2024, visual inspections and field screening of soil were conducted at the hatch and loadout of the AST, three sidewalls of the PWV excavation, three potholes, two meter houses, and one ECD. 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. A photographic log is attached.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 12  
Number of soil samples exceeding 915-1 11  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 600

**NA / ND**

-- Highest concentration of TPH (mg/kg) 51.7  
-- Highest concentration of SAR 2.44  
BTEX > 915-1 Yes  
Vertical Extent > 915-1 (in feet) 8

**Groundwater**

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? Yes  
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?

Eighteen background soil samples (Native-BG01@0.5' through Native-BG06@0.5', Native-BG07@3' through Native-BG12@3', and Native-BG07@6' through Native-BG12@6') were collected from the native material during Hudson 12-26A wellhead decommissioning activities (Remediation No. 35064), located approximately 1,200 ft north and a similar NRCS soil type (Osgood Sand and Valent Sand). The soil type was also field verified to be the same at both locations. The background soil samples were submitted for analysis of electrical conductivity (EC), sodium adsorption ratio (SAR), pH, boron, and Table 915-1 metals, using ECMC approved methods. Laboratory analytical results indicate that levels of pH, arsenic, barium, and hexavalent chromium are naturally high in the native soil. The background sample analytical results are summarized in Table 2. The background sample 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 120 cubic yards of impacted soil were removed from the site and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado for disposal. Disposal records are kept on file and are available upon request. The excavation areas were backfilled and contoured to match pre-existing conditions.

**REMEDATION 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 soil impacts have been remediated and all soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or background levels. Groundwater was not encountered in the facility excavations. 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 )
- \_\_\_\_\_ Chemical oxidation
- \_\_\_\_\_ Air sparge / Soil vapor extraction
- \_\_\_\_\_ Natural Attenuation
- \_\_\_\_\_ Other \_\_\_\_\_

- Yes Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 120
- \_\_\_\_\_ 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**

- \_\_\_\_\_ 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 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 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: \$ 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:

N/A

Volume of E&P Waste (solid) in cubic yards 120

E&P waste (solid) description Impacted Soil

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

Non-ECMC Disposal Facility: Buffalo Ridge Landfill in Keenesburg, 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? 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. 11/20/2024

Proposed date of completion of Reclamation. 11/20/2025

## 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. 06/24/2024

Actual Spill or Release date, or date of discovery. 06/24/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/21/2024

Proposed site investigation commencement. 06/21/2024

Proposed completion of site investigation. 07/31/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/21/2024

Proposed date of completion of Remediation. 07/31/2024

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

Conditions of approval (COAs) were issued by the ECMC for Document No. 403889005.

COA #1: Kerr-McGee believes that the background samples from remediation project number 35064 are valid for this project as they are located approximately 1,200 feet north and are within a similar NRCS soil type. The NRCS soil type at the facility location is Osgood sand whereas the NRCS soil type at the associated wellhead project is Valent sand. Furthermore, the field verified soil types for samples collected from both projects are the same. As such, Kerr-McGee has left the background samples from remediation project number 35064 in this Form 27 for inorganic comparison.

COA #2: A rerun of sample AST01 @0.5' was not conducted as noted in the COA. A separate verification sample was collected from the same location and the verification sample was analyzed for the initial benzo(a)anthracene exceedance to confirm the initial result. The location has since been removed via excavation following receipt of the verification sample results that confirmed the initial exceedance. Kerr-McGee acknowledges that laboratory reruns are not considered valid for organic constituents.

Based on 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: Macy Kiel

Title: HSE Advisor

Submit Date: 12/06/2024

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: \_\_\_\_\_

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

Remediation Project Number: 35444

### COA Type

### Description

<u>COA Type</u>	<u>Description</u>
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

404001472	FORM 27 DENIED
404001897	SOIL SAMPLE LOCATION MAP
404001899	PHOTO DOCUMENTATION
404002937	ANALYTICAL RESULTS
404018479	SOIL SAMPLE LOCATION MAP
404079366	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 6 Files

### General Comments

#### User Group

#### Comment

#### Comment Date

Environmental	Background samples from Remediation Project #35064 are invalid for this location as they were collected within a separate NRCS soil type and are over 1300' away. These samples shall be omitted from future background determination calculations. In the future Operator shall refrain from presenting invalid background samples and instead obtain background samples 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 for comparison to confirmation soil samples	02/03/2025
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Environmental	ECMC again denies closure. Impacts were documented at this location and Operator shall remediate soils in the vicinity of AST-01 @0.5'. Operator shall analyze confirmation soil samples for complete Table 915-1 Contaminants of Concern until Operator has submitted sufficient characterization data to request and receive Director Approval of reduced list of contaminants of concern.	02/03/2025
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Total: 2 comment(s)

