

State of Colorado  
Energy & Carbon Management Commission

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Report taken by:  
Kari Brown

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 ECOM 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>		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 #: 35446 Initial Form 27 Document #: 403784380

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>TANK BATTERY</u>	Facility ID: <u>486707</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>BYDALEK 28C-20HZ Tank Battery</u>	Latitude: <u>40.116939</u>	Longitude: <u>-104.692600</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>20</u>	Twp: <u>2N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>487402</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Bydalek 3, 4, 28, 29N, 28, 29, 30C</u>	Latitude: <u>40.116939</u>	Longitude: <u>-104.692600</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>20</u>	Twp: <u>2N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

## **SITE CONDITIONS**

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use 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**

Pond 1,280 feet (ft) northwest. Water well 420 ft southwest. Occupied buildings 500 ft northeast, 680 ft east, 1,080 ft southwest, 1,240 ft east, and 1,260 ft northwest. Livestock 590 ft east. County Roads 120 ft south and 1,190 ft west. Agriculture.

# 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.

Partial decommissioning activities were completed at the Bydalek 3,4,28,29N,28,29,30C Facility on July 2, 2024. Groundwater was not encountered during excavation activities. Visual inspection and field screening of soil at three separators were conducted, and soil samples (SEP01-INLET@0.5', SEP01-OUTLET@0.5', SEP02-INLET@0.5', SEP02-OUTLET@0.5', SEP03-INLET@0.5', and SEP03-OUTLET@0.5') were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial laboratory analytical results indicated that arsenic, cadmium, and/or selenium impacts exceeding the ECMC Table 915-1 allowable levels and/or site-specific background levels were present at the SEP01-INLET@0.5', SEP02-INLET@0.5', SEP02-OUTLET@0.5', and SEP03-INLET@0.5' locations. On July 5, 2024, verification samples were collected to confirm the initial results and final analytical results indicated that cadmium impacts were present at the SEP01-INLET@0.5' and SEP02-INLET@0.5' locations. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403848977) was submitted on July 11, 2024 and the ECMC issued Spill/Release Point ID 487402. 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 July 2 and September 26, 2024, excavation activities were conducted to address the remaining soil impacts at the former SEP01-INLET and SEP02-INLET locations. Two confirmation and two verification soil samples were collected from the base of the excavations at 1 ft below ground surface (bgs). The samples were submitted for analysis of the site-specific waste profile including select Table 915-1 metals, using ECMC-approved methods. Additional sample volume was collected on July 10, 2025 and analyzed for the remaining full list Table 915-1 constituents. Laboratory analytical results indicated that soil was in compliance with the Table 915-1 allowable levels or within background levels x1.25 for Table 915-1 metals. The laboratory reports are attached. A photo log is 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 partial 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 ):

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 16  
Number of soil samples exceeding 915-1 14  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 50

**NA / ND**

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
-- Highest concentration of SAR 1.51  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 1

**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?

Twelve background soil samples were collected from the native material outside of the facility. The 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 EC, SAR, arsenic, barium, hexavalent chromium, and selenium are naturally high in the native soil. The background sample locations are depicted on Figure 2. The background sample analytical results are summarized in Table 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 40 cubic yards of impacted soil were removed from the site and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for recycling. Disposal records are kept on file and available upon request. The excavation areas were backfilled and contoured to match preexisting 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.

Analytical results indicate that the cadmium impacts have been remediated and all soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. Groundwater was not encountered during partial facility decommissioning 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, 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) \_\_\_\_\_ 40  
Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_ 149007  
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.



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. 08/04/2025

Proposed date of completion of Reclamation. 08/04/2026

## 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. 07/10/2024

Actual Spill or Release date, or date of discovery. 07/09/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/02/2024

Proposed site investigation commencement. 07/02/2024

Proposed completion of site investigation. 07/10/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/02/2024

Proposed date of completion of Remediation. 07/10/2025

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**

Per the general comment for denied Form 27 Supplemental Document No. 403993471, original, locked analytical reports have been obtained from the laboratory and are attached to this document.

In addition, the background soil samples collected as part of the Bydalek 3N,4N,28N-20HZ wellhead decommissioning activities are no longer being applied to this project and have been removed from the figures and tables.

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: 09/03/2025 \_\_\_\_\_

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: Kari Brown \_\_\_\_\_

Date: 12/04/2025 \_\_\_\_\_

Remediation Project Number: 35446 \_\_\_\_\_

**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.

**Att Doc Num****Name**

404096194	FORM 27-SUPPLEMENTAL-SUBMITTED
404096207	LABORATORY ANALYTICAL REPORT
404096208	LABORATORY ANALYTICAL REPORT
404304582	ANALYTICAL DATA SUMMARY TABLE(S)
404304586	PHOTO DOCUMENTATION
404304589	LABORATORY ANALYTICAL REPORT
404304594	SOIL SAMPLE LOCATION MAP
404304595	SOIL SAMPLE LOCATION MAP
404339408	LABORATORY ANALYTICAL REPORT
404339412	LABORATORY ANALYTICAL REPORT

Total Attach: 10 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)