

State of Colorado  
Energy & Carbon Management Commission

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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: KERR MCGEE OIL & GAS ONSHORE LP	Operator No: 47120	<b>Phone Numbers</b>
Address: P O BOX 173779		Phone: (720) 929-4307
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Max Moran	Email: DJRemediation_Forms@oxy.com	Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36656 Initial Form 27 Document #: 403873571

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: Request Director's Approval of site-specific waste profile.

SITE INFORMATION

Yes Multiple Facilities

Facility Type: TANK BATTERY	Facility ID: 487378	API #: _____	County Name: WELD
Facility Name: Reisbeck 9-18 Watada Facility	Latitude: 40.047352	Longitude: -104.813438	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 18	Twp: 1N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: SPILL OR RELEASE	Facility ID: 488241	API #: _____	County Name: WELD
Facility Name: Reisbeck 9-18, Watada	Latitude: 40.047433	Longitude: -104.813947	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 18	Twp: 1N	Range: 66W Meridian: 6 Sensitive Area? Yes

## 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

Surface water 540 feet (ft) south, southwest, west, and northwest. An area with wetland characteristics is located approximately 540 ft south, southwest, west, and northwest. Water well 190 ft southwest. Commercial buildings surrounding the site. Occupied building 1210 ft northeast. County Road 920 ft east and 1270 ft south. The site is located within a ¼ mile of the boundary of a Mule Deer Migration Corridor High Priority Habitat (HPH) area.

## 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
UNDETERMINED	GROUNDWATER	TBD	Groundwater Samples/Laboratory Analytical Results
Yes	SOILS	TBD	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 Reisbeck 9-18, Watada facility on September 4, 2024. Groundwater was not encountered during excavation activities. Visual inspection and field screening of soil at one aboveground storage tank (AST) were conducted following removal activities. A soil sample (AST01@0.5') was submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial laboratory analytical results indicated that lead impacts exceeding the ECMC Table 915-1 allowable level and background level were present at the AST01@0.5' location. A verification sample was collected to confirm the initial result. Final analytical results confirmed that lead impacts exceeding the ECMC Table 915-1 allowable level and background level were present at the AST01@0.5' location. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 403962075) was submitted on October 18, 2024, and the ECMC issued Spill/Release Point ID 488241. 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.

On-location background samples (NATIVE-BG07 through NATIVE-BG12, collected March 11, 2025) were analyzed for TPH and PAHs (in addition to pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and Table 915-1 metals) to confirm the absence of historic releases at background sample locations. Laboratory results indicated that PAH, arsenic, and barium impacts exceeding the ECMC Table 915-1 allowable levels and background levels were present at the NATIVE-BG11 location.

Additional facility decommissioning activities are pending. Assessment activities are ongoing and details will be provided in a subsequent Form 27 Supplemental report.

### 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 9/4/24 & 4/16/25, excavation activities were conducted to address remaining soil impacts at the AST01 & NATIVE-BG11 locations. Twelve confirmation soil samples were collected from the base & sidewalls of the final excavation extents at depths of 4 & 7 ft below ground surface (bgs) & 2 & 5 ft bgs, respectively. The confirmation samples were submitted for laboratory analysis of the excavation-specific waste profiles including TPH, PAHs, benzene, toluene, ethylbenzene, total xylenes (BTEX), EC, SAR, pH, boron, & select Table 915-1 metals using ECMC-approved methods. Initial results indicated that PAH, arsenic, barium, cadmium, &/or lead concentrations above the ECMC Table 915-1 allowable levels & background levels remain in both excavations. Verification samples were collected to confirm the inorganic results & final re-run results confirmed that cadmium & lead impacts remain in the AST01 excavation. Assessment activities are ongoing. The laboratory 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 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 ):

On September 4, 2024, visual inspections and field screening of soil were conducted at the hatch and footprint of the AST. 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

#### NA / ND

Number of soil samples collected	27	--	Highest concentration of TPH (mg/kg)	25.7
Number of soil samples exceeding 915-1	24	--	Highest concentration of SAR	1.36
Was the areal and vertical extent of soil contamination delineated?	No		BTEX > 915-1	No
Approximate areal extent (square feet)	751		Vertical Extent > 915-1 (in feet)	7

#### Groundwater

Number of groundwater samples collected	0		Highest concentration of Benzene (µg/l)	
Was extent of groundwater contaminated delineated?	No		Highest concentration of Toluene (µg/l)	
Depth to groundwater (below ground surface, in feet)			Highest concentration of Ethylbenzene (µg/l)	
Number of groundwater monitoring wells installed			Highest concentration of Xylene (µg/l)	
Number of groundwater samples exceeding 915-1			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?

One tank battery background soil sample was collected from the soil used to construct the tank battery. Twelve background soil samples were collected from the native material outside of the facility excavation. Twelve background samples were also collected as part of the Denver 16,36-18 wellhead cut & cap activities (Rem# 36428), located 190 ft southeast, from similar depths (3' & 6' bgs), & NCRS soil type (loam). The background soil samples were submitted for laboratory analysis of pH, EC, SAR, boron, & Table 915-1 metals using ECMC-approved methods. Laboratory analytical results indicate that arsenic & barium are naturally high in the soil used to construct the tank battery & pH, arsenic, & barium are naturally high in the native soil. Samples from the NATIVE-BG08 & NATIVE-BG11 locations are not being applied due to PAH detections. The background soil sample laboratory analytical results are summarized in Table 2. The background soil sample locations are depicted on Figures 1 & 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?

Additional facility decommissioning activities are pending. Assessment activities are ongoing and details will be provided in a subsequent Form 27 Supplemental report.

# 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.

Impacted soil from the AST01 and NATIVE-BG11 locations will be removed and transported to a licensed disposal facility. Final disposal information will be provided upon completion of excavation activities. Disposal records will be kept on file and available upon request. The excavation areas 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 PAH, arsenic, barium, cadmium, and lead impacts exceeding the ECMC Table 915-1 allowable levels and/or background levels remain in the AST01 and/or NATIVE-BG11 excavations. Groundwater was not encountered during excavation activities. Additional facility decommissioning activities are pending. Assessment activities are ongoing and details will be provided in a subsequent Form 27 Supplemental report.

## Soil Remediation Summary

In Situ

Ex Situ

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

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

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

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

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

\_\_\_\_\_ Name of Licensed Disposal Facility or ECMC 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.

# 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 Request Director's Approval of site-specific waste profile

## 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: \$ 15500

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? \_\_\_\_\_

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

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

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

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

Non-ECMC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

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 Reclamation 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. 10/18/2024

Actual Spill or Release date, or date of discovery. 10/17/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/04/2024

Proposed site investigation commencement. 09/04/2024

Proposed completion of site investigation. 12/29/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/04/2024

Proposed date of completion of Remediation. 12/29/2025

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 Rule 915.e.(2).C, discrete grab samples (AST01@0.5' and NATIVE-BG11@6') were collected from the most impacted material available in the source areas on 9/4/24 and 3/11/25. The laboratory report and results summary table are attached. Based on these results, KMOG requests approval to amend confirmation sampling and analysis to only include hydrocarbon and metal analytes detected above laboratory reporting limits and reclamation parameters exceeding Table 915-1 allowable levels, specifically: TPH, PAHs, arsenic, barium, cadmium, copper, lead, nickel, silver, and zinc at the AST01 location and BTEX, PAHs, EC, SAR, pH, boron, arsenic, barium, cadmium, hexavalent chromium, lead, nickel, and zinc at the NATIVE-BG11 location.

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

Signed: Max Moran

Title: Environmental Advisor

Submit Date: 08/18/2025

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: 36656

**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.

<b>Att Doc Num</b>	<b>Name</b>
404242980	FORM 27 DENIED
404242987	PHOTO DOCUMENTATION
404242989	LABORATORY ANALYTICAL REPORT
404242991	LABORATORY ANALYTICAL REPORT
404242992	LABORATORY ANALYTICAL REPORT
404243250	LABORATORY ANALYTICAL REPORT
404257435	SOIL SAMPLE LOCATION MAP
404258966	ANALYTICAL DATA SUMMARY TABLE(S)
404259822	SOIL SAMPLE LOCATION MAP
404290284	LABORATORY ANALYTICAL REPORT
404359112	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 11 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
Environmental	ECMC has denied this Form. Verification samples of this magnitude are not considered valid. If the Operator chooses to use multiple verification samples for a single sample point, then the Operator must explain their scientific justification for multiple reruns/resamples.	09/18/2025

Total: 1 comment(s)