

State of Colorado  
Energy & Carbon Management Commission

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Report taken by:  
Candice (Nikki) Graber

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>		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 #: 38247 Initial Form 27 Document #: 403991639

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>445565</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>FRANK 21-31 TANK BATTERY</u>	Latitude: <u>40.262999</u>	Longitude: <u>-104.940388</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>31</u>	Twp: <u>4N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>490144</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Frank 23, 14, Russell 19, 13-31</u>	Latitude: <u>40.263057</u>	Longitude: <u>-104.940451</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>31</u>	Twp: <u>4N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Occupied Buildings

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 Roads 55 feet (ft) south and 350 ft west. Occupied buildings 240 ft southwest, 760 ft northwest, and 1050 ft southeast. Areas with wetland characteristics are located approximately 340 ft southwest and 520 ft northwest. Commercial buildings 930 ft northwest. Livestock 990 ft southwest and 1030 ft northwest. 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
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.

Decommissioning activities were completed at the Frank 23,14,Russell 19, 13-31 production facility between March 25 and May 8, 2025. Groundwater was not encountered during decommissioning activities. Visual inspection and field screening of soil at two aboveground storage tanks (ASTs), one produced water vessel (PWV), one separator, one emission control device (ECD), one meter house, five dumphine potholes, and two tank battery locations below the liner were conducted following removal activities. Soil samples (AST01@0.5', AST02@0.5', PWV-N01@2.5', PWV-B01@5', SEP01-Inlet@5', SEP01-Outlet@5', FL04@5' through FL08@5', TB-B01@1', and TB-B02@1') were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial analytical results indicated that 1,2,4- and 1,3,5-trimethylbenzene (TMB), polycyclic aromatic hydrocarbon (PAH), and/or hexavalent chromium impacts exceeding the Table 915-1 allowable levels are present at the AST01, AST02, and/or FL08 locations. As such, a Form 19 Initial Spill/Release Report (Document No. 404194053) was submitted on May 9, 2025, and the ECMC issued Spill/Release Point ID 490144. A verification sample was collected concurrently with the initial sample but in separate laboratory-provided bottles to confirm the initial hexavalent chromium results at the FL08 location. Final verification results were within the Table 915-1 allowable levels or within background levels. Confirmation soil sampling will be conducted using the analyte reduction list as approved in the Form 19 Supplemental and Closure Report (Document No. 404205408). 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.

Excavation 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 March 25 and May 8, 2025, soil samples (AST01, AST02, PWV-N01, PWV-B01, SEP01-Inlet, SEP01-Outlet, FL04 through FL08, TB-B01, and TB-B02) were collected at depths ranging from 0.5 ft below ground surface (bgs) to 5 ft bgs. The samples were submitted for analysis of full list Table 915-1 constituents using ECMC-approved methods. Laboratory analytical results indicated that TMB, PAH, and/or hexavalent chromium impacts exceeding the Table 915-1 allowable levels are present at the AST01, AST02, and/or FL08 locations. A verification sample was collected concurrently with the initial sample but in separate laboratory-provided bottles to confirm the initial hexavalent chromium results at the FL08 location. Final verification results were within the Table 915-1 allowable levels or within background levels. 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 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 March 25, 2025, visual inspection and field screening of soil were conducted at the loadouts of each AST, three sidewall locations within the PWV excavation, the ECD, and the meter house. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the screening locations, and no soil samples were submitted for laboratory analysis from these areas, in accordance with the ECMC Operator Guidance. A photographic log is attached.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 26

Number of soil samples exceeding 915-1 17

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 1755

### NA / ND

-- Highest concentration of TPH (mg/kg) 125

-- Highest concentration of SAR 3.18

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 5

### 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?

One tank battery background soil sample (TB-BG01@0.5') was collected from the soil used to construct the tank battery. Eight background soil samples (NATIVE-BG01@3' through NATIVE-BG04@3' & NATIVE-BG01@6' through NATIVE-BG04@6') were collected from the native material outside of the facility excavations. Twelve background samples were also collected as part of the Russell 12-31 wellhead cut & cap activities (Rem# 32533), located 1910 ft northeast, from similar depths (3' & 6' bgs), & NCRS soil type (silt). The background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, & Table 915-1 metals using ECMC-approved methods. Analytical results indicate that arsenic is naturally high in the tank battery & SAR, pH, boron, arsenic, barium, & selenium are naturally high in the native soil. The background soil sample results are summarized in Table 2. The background soil sample locations are illustrated 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?

Excavation 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 former AST locations will be removed and transported to a licensed disposal facility. Final disposal information will be provided upon completion of assessment 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.

### REMEDICATION 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 TMB and/or PAH impacts exceeding the Table 915-1 allowable levels are present at the AST01 and AST02 locations. Groundwater was not encountered during facility decommissioning activities. Excavation 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 )
- \_\_\_\_\_ Chemical oxidation
- \_\_\_\_\_ Air sparge / Soil vapor extraction
- \_\_\_\_\_ Natural Attenuation
- \_\_\_\_\_ Other \_\_\_\_\_

- \_\_\_\_\_ Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_
- \_\_\_\_\_ Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_
- \_\_\_\_\_ 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.

# REMEDATION 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 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: \$ 15000 \_\_\_\_\_

## 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: \_\_\_\_\_

# REMEDATION COMPLETION REPORT

## REMEDATION 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 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.

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. 05/07/2025

Actual Spill or Release date, or date of discovery. 05/07/2025

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/25/2025

Proposed site investigation commencement. 03/25/2025

Proposed completion of site investigation. 01/09/2026

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/25/2025

Proposed date of completion of Remediation. 01/09/2026

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**

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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: 07/09/2025

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: Candice (Nikki) Graber

Date: 08/05/2025

Remediation Project Number: 38247

**COA Type****Description**

	Per COA on Document# 404205408: ECMC agrees to the following reduced analyte list (below) based on waste characterization data provided to date. Additionally, if during subsequent site investigation and remediation soil that appears to be more impacted (based on PID readings, visual and/or olfactory indicators) is discovered, Operator shall collect a sample(s) from that location (those locations) for laboratory analysis of full ECMC Table 915-1 contaminants of concern. If analytes beyond those proposed in the below amended sampling plan are detected, those compounds will be added to the sampling plan and additional confirmation samples may be required. Approved analyte list: BTEX, TPH, 1,2,4- and 1,3,5-trimethylbenzenes (TMBs), naphthalene, and polycyclic aromatic hydrocarbons (PAHs).
	ECMC approves the usage of off location background samples at they are in the same soil type and same agricultural field.
	ECMC does not approve the use of 'verification' samples on every sample point. Operator shall refrain from using this in the future.
3 COAs	

**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**

404206629	FORM 27-SUPPLEMENTAL-SUBMITTED
404206699	LABORATORY ANALYTICAL REPORT
404206700	LABORATORY ANALYTICAL REPORT
404206702	LABORATORY ANALYTICAL REPORT
404206703	LABORATORY ANALYTICAL REPORT
404222672	SOIL SAMPLE LOCATION MAP
404222674	SOIL SAMPLE LOCATION MAP
404222678	PHOTO DOCUMENTATION
404272306	LABORATORY ANALYTICAL REPORT
404272307	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 10 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)