

State of Colorado  
Energy & Carbon Management Commission

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404127630  
Receive Date:  
05/07/2025

Report taken by:  
Collin Metz

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 #: 16129 Initial Form 27 Document #: 402535756

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>329546</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>ELLS-61N65W 19SESE</u>	Latitude: <u>40.032385</u>	Longitude: <u>-104.700775</u>	
	** correct Lat/Long if needed: Latitude: <u>40.029854</u>	Longitude: <u>-104.699372</u>	
QtrQtr: <u>SESE</u> Sec: <u>19</u> Twp: <u>1N</u> Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>479613</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>ELLS XX 19-4D</u>	Latitude: <u>40.029854</u>	Longitude: <u>-104.699372</u>	
	** correct Lat/Long if needed: Latitude: _____	Longitude: _____	
QtrQtr: <u>SESE</u> Sec: <u>19</u> Twp: <u>1N</u> Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			

## SITE CONDITIONS

General soil type - USCS Classifications SC \_\_\_\_\_

Most Sensitive Adjacent Land Use Agriculture, Rangeland \_\_\_\_\_

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**

Weld County Road 6 approximately 70 feet (ft) south; Residential buildings approximately 400 ft west; Water well located approximately 400 ft west; Groundwater at approximately 15 ft below ground surface (bgs).

# 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	GROUNDWATER	See attached data	Groundwater Samples/Laboratory Analytical Results
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 ELLS XX 19-4D Facility on March 4, 2024. Groundwater was encountered during excavation activities at approximately 15 ft bgs. Visual inspection and field screening of soil at one aboveground storage tank (AST), one produced water vessel (PWV), four potholes, and one separator were conducted following removal activities, and soil samples (AST01@8", PWV-B01@15', PWV-S01@13', and FL01@4') were submitted for analysis of full list Table 915-1 constituents due to potential impact. Laboratory analytical results indicated that benzene, toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene (TMBs), naphthalene, 1-methylnaphthalene, 2-methylnaphthalene, sodium adsorption ratio (SAR), boron, arsenic, and/or selenium impacts exceeding the ECMC Table 915-1 allowable levels and/or site-specific background levels were present at the former AST, PWV, and FL01 locations. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No. 402618667) was submitted on March 5, 2021 and the ECMC issued Spill/Release Point ID 479613.

Assessment activities are ongoing and will be summarized 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 4 and July 21, 2021, excavation activities were conducted to address remaining soil impacts at the former AST, PWV, and FL01 locations. Confirmation soil samples were collected from the base and sidewalls of the combined facility excavation at depths ranging from 14 to 18 ft bgs. The samples were submitted for laboratory analysis of either full list Table 915-1 constituents or the site-specific waste profile developed following the methods approved at the time of sampling. Laboratory analytical results indicated that benzene, TMB, polycyclic aromatic hydrocarbon (PAH), arsenic, barium, and/or selenium impacts exceeding the ECMC Table 915-1 allowable levels or background levels remain along the southern sidewall and at the base of the excavation. Excavation activities could not be continued due to the proximity to Weld County Road 6 to the south limiting the required sloping for an engineered excavation. Per conversation with the ECMC, the excavation was backfilled.

### Proposed Groundwater Sampling

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

On April 6 and 19, 2021, two groundwater samples (PWV-GW01 and PWV-GW02) were collected from the PWV excavation and submitted for full list Table 915-1 constituents in groundwater. One background groundwater sample was also collected and submitted for Table 915-1 inorganic parameters. Laboratory analytical results indicated that groundwater was in exceedance of the Table 915-1 standards for benzene, TMBs, and/or total dissolved solids (TDS).

### 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 4, 2021, visual inspections and field screening of soil were conducted at the base, drainline, loadout, and dumplines for the AST, two sidewalls within the PWV excavation, the separator, the sales line and three potholes. 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	NA / ND
Number of soil samples collected <u>87</u>	-- Highest concentration of TPH (mg/kg) <u>52.1</u>
Number of soil samples exceeding 915-1 <u>82</u>	-- Highest concentration of SAR <u>14.34</u>
Was the areal and vertical extent of soil contamination delineated? <u>No</u>	BTEX > 915-1 <u>Yes</u>
Approximate areal extent (square feet) <u>9872</u>	Vertical Extent > 915-1 (in feet) <u>18</u>
<b>Groundwater</b>	
Number of groundwater samples collected <u>2</u>	-- Highest concentration of Benzene (µg/l) <u>12.5</u>
Was extent of groundwater contaminated delineated? <u>No</u>	ND Highest concentration of Toluene (µg/l) <u>        </u>
Depth to groundwater (below ground surface, in feet) <u>15</u>	-- Highest concentration of Ethylbenzene (µg/l) <u>162</u>
Number of groundwater monitoring wells installed <u>0</u>	-- Highest concentration of Xylene (µg/l) <u>391</u>
Number of groundwater samples exceeding 915-1 <u>2</u>	NA Highest concentration of Methane (mg/l) <u>        </u>

### 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?

Eight background soil samples were collected from the native material outside of the facility excavation. The background soil samples were submitted for laboratory analysis of specific conductivity (EC), SAR, pH, boron, and Table 915-1 metals using ECMC-approved methods. Laboratory analytical results indicated EC, SAR, pH, arsenic, barium, and selenium are naturally high in the native soil.

One background groundwater sample (BG-GW01) was collected and submitted for Table 915-1 inorganic parameters.

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?

A site investigation will be conducted to delineate the remaining soil impacts at the site. Following the soil investigation, groundwater monitoring wells will be installed to delineate the dissolved-phase plume. The soil and groundwater investigation scopes of work 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.

Approximately 4,410 barrels of impacted groundwater were removed from the site and transported to Aggregate Recycle Facility in Weld County, Colorado, for recycling. Approximately 8,688 cubic yards of impacted soil were removed from the site and transported to Buffalo Ridge Landfill in Keenesburg, Colorado, for disposal. Disposal records are kept on file and are available upon request. The excavation area was 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 benzene, TMB, PAH, arsenic, barium, and/or selenium impacts exceeding the ECMC Table 915-1 allowable levels or background levels remain along the southern sidewall and at the base of the excavation. Excavation activities could not be continued due to the proximity to Weld County Road 6 to the south limiting the required sloping for an engineered excavation. Groundwater was encountered in the facility excavation at approximately 15 ft bgs. A site investigation will be conducted to delineate the remaining soil impacts at the site. Following the soil investigation, groundwater monitoring wells will be installed to delineate the dissolved-phase plume. The soil and groundwater investigation scopes of work 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 \_\_\_\_\_

- Yes \_\_\_\_\_ Excavate and offsite disposal
- \_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 8688
- \_\_\_\_\_ 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.

A site investigation will be conducted to delineate the remaining soil impacts at the site. Following the soil investigation, groundwater monitoring wells will be installed to delineate the dissolved-phase plume. The monitoring well installation scope of work will be summarized in a subsequent Form 27 supplemental report.

# 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 \_\_\_\_\_

## 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: \$ 50000 \_\_\_\_\_

## 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 4,410 barrels of impacted groundwater were removed from the site and transported to Aggregate Recycle Facility in Weld County, Colorado, for recycling.

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 8688

E&P waste (solid) description Historically impacted soil

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

Non-ECMC Disposal Facility: Buffalo Ridge Landfill in Keenesburg, 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? 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. 03/04/2021

Actual Spill or Release date, or date of discovery. 03/04/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/04/2021

Proposed site investigation commencement. 03/04/2021

Proposed completion of site investigation. 09/14/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/04/2021

Proposed date of completion of Remediation. 09/14/2026

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**

No additional work has been done since the previous Form 27 and, as such, none of the previous attachments have been included with this form. The implementation schedule has been updated.

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: 05/07/2025

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: Collin Metz

Date: 07/02/2025

Remediation Project Number: 16129

**COA Type****Description**

	ECMC has processed this form as an update; no analytical was attached thus approval of this form does not imply any agreement with comments on completion of site investigation. All ongoing/unaddressed comments/COAs from previous Forms remain applicable.
	Operator submitted this form outside of the approved reporting schedule (Quarterly). In accordance with Rule 913.e.(3), Operator will adopt a quarterly reporting schedule (every 90 days); additional violations may result in enforcement.
2 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**

404127630	FORM 27-SUPPLEMENTAL-SUBMITTED
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)