

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 & GAS ONSHORE LP</u>	Operator No: <u>47120</u>	Phone Numbers
Address: <u>P O BOX 173779</u>		Phone: <u>(713) 350-4906</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>()</u>
Contact Person: <u>Ariana Ochoa</u>	Email: <u>DJRemediation_Forms@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35578 Initial Form 27 Document #: 403795704

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>415463</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>CANNON W15-68-1HN TANK</u>	Latitude: <u>40.142380</u>	Longitude: <u>-104.768060</u>	
	** correct Lat/Long if needed: Latitude: <u>40.142179</u>	Longitude: <u>-104.767916</u>	
QtrQtr: <u>NENW</u> Sec: <u>15</u> Twp: <u>2N</u> Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>487767</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Cannon 3&6-15 Facility</u>	Latitude: <u>40.142525</u>	Longitude: <u>-104.767974</u>	
	** correct Lat/Long if needed: Latitude: _____	Longitude: _____	
QtrQtr: <u>NENW</u> Sec: <u>15</u> Twp: <u>2N</u> Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Rangeland with Livestock

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

Livestock surrounding. County Roads 1,140 feet (ft) north and 1,330 ft west. Agriculture.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | |
| <input checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> 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 Canon 3&6-15 and Cannon W 15-20 O SA facilities on 8/23 and 8/28/2024. Groundwater was not encountered during facility decommissioning activities. Visual inspection and field screening of soil at four aboveground storage tanks (ASTs), four produced water vessels (PWV), one emission control device (ECD), four meter houses, two dumpline locations, and three separators were conducted, and soil samples (AST01@0.5', AST02@0.5', AST03@0.5', AST04@0.5', PWV01-B01@5', PWV01-N01@3', PWV02-B01@5', PWV02-W01@3', PWV03-B01@5', PWV03-S01@3', PWV04-B01@5', PWV04-E01@2.5', SEP01-INLET@5', SEP01-OUTLET@5', SEP02-INLET@5', SEP02-OUTLET@5', SEP03-INLET@3', & SEP03-OUTLET@3') were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial laboratory analytical results indicated that total petroleum hydrocarbons (TPH), toluene, ethylbenzene, total xylenes (BTEX), 1,2,4- & 1,3,5-trimethylbenzene (TMBs), naphthalene, 1- & 2-methylnaphthalene, and/or arsenic impacts exceeding the ECMC Table 915-1 allowable levels or background levels were present at the AST02 and SEP01-INLET locations. As such, a Form 19 Spill Report (Doc# 403906705) was submitted on 8/30/2024, and the ECMC issued Spill ID 487767. A verification sample was collected at the AST02 location to confirm the initial results. Final analytical results indicate that the AST02@0.5' sample was in compliance with the Table 915-1 allowable levels or within background levels x1.25 for Table 915-1 metals. The facility is 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 8/28 and 12/2/2024, excavation activities were conducted to address remaining soil impacts at the SEP01-INLET@4' and eleven confirmation soil samples were collected from the base and sidewalls of the final excavation extents at depths of approximately 7 ft below ground surface (bgs) and 4 & 6 ft bgs, respectively. The confirmation soil samples were submitted for laboratory analysis of the site-specific waste profile, including TPH, BTEX, TMBs, polycyclic aromatic hydrocarbons (PAHs), pH, boron, and select Table 915-1 metals, using ECMC-approved methods. Analytical results indicated that all samples at the final excavation extents were within the ECMC Table 915-1 allowable levels or within 1.25 times background levels for Table 915-1 metals. 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 August 23 and August 28, 2024, visual inspections and field screening of soil were conducted at the hatch, footprint, and/or loadout for each AST, nine sidewall locations within the PWV excavations, one ECD location, four meter house locations, and two dumpline 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. A photographic log is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 33

Number of soil samples exceeding 915-1 27

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 3319

NA / ND

-- Highest concentration of TPH (mg/kg) 1912

-- Highest concentration of SAR 1.67

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 7

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?

Two tank battery background soil sample (TB-BG01@0.5' and TB-BG02@0.5') were collected from the soil used to construct the tank battery. Sixteen background soil samples (NATIVE-BG01@3' through NATIVE-BG08@3' and NATIVE-BG01@6' through NATIVE-BG08@6') were collected from the native material outside of the facility excavations. The background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and Table 915-1 metals, using ECMC-approved methods. Laboratory analytical results indicate that pH and arsenic are naturally high in the soil used to construct the tank battery and pH, arsenic, barium, lead, and selenium are naturally high in the native soil. The background soil sample laboratory analytical results are summarized in Table 2. The background soil sample locations are depicted on Figure 1.

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 70 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. Approximately 10 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 have been 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 TPH, BTEX, TMBs, PAHs, and/or arsenic impacts have been remediated and all soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or within 1.25 times background levels for Table 915-1 metals. Groundwater was not encountered during 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)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) _____ 80

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # _____ 149007

_____ Natural Attenuation

No _____ 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 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:

Approximately 70 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.

Volume of E&P Waste (solid) in cubic yards 80

E&P waste (solid) description Impacted soil

ECMC Disposal Facility ID #, if applicable: 149007

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? 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.

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. 01/21/2025

Proposed date of completion of Reclamation. 01/21/2026

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. 08/30/2024

Actual Spill or Release date, or date of discovery. 08/30/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/23/2024

Proposed site investigation commencement. 08/23/2024

Proposed completion of site investigation. 12/02/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/23/2024

Proposed date of completion of Remediation. 12/02/2024

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

Based on the analytical and soil screening data provided herein, assessment is complete, and Kerr-McGee is requesting a 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: Ariana Ochoa

Title: Sr. HSE Advisor

Submit Date: 04/16/2025

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: 10/30/2025

Remediation Project Number: 35578

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**

404058680	FORM 27-SUPPLEMENTAL-SUBMITTED
404058900	PHOTO DOCUMENTATION
404058905	LABORATORY ANALYTICAL REPORT
404058910	LABORATORY ANALYTICAL REPORT
404058911	LABORATORY ANALYTICAL REPORT
404058912	LABORATORY ANALYTICAL REPORT
404058917	LABORATORY ANALYTICAL REPORT
404058920	LABORATORY ANALYTICAL REPORT
404058921	LABORATORY ANALYTICAL REPORT
404065300	LABORATORY ANALYTICAL REPORT
404081330	LABORATORY ANALYTICAL REPORT
404136072	SOIL SAMPLE LOCATION MAP
404136119	ANALYTICAL DATA SUMMARY TABLE(S)

Total Attach: 13 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)