

State of Colorado
Energy & Carbon Management Commission

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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 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	Phone Numbers
Address: P O BOX 173779		Phone: (720) 929-4306
City: DENVER	State: CO	Zip: 80217-3779
Contact Person: Erik Mickelson	Email: DJRemediation_Forms@oxy.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36598 Initial Form 27 Document #: 403849161

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: TANK BATTERY	Facility ID: 487345	API #: _____	County Name: WELD
Facility Name: Adams George GU 1 Facility	Latitude: 40.171240	Longitude: -105.004493	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNE	Sec: 4	Twp: 2N	Range: 68W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 488162	API #: _____	County Name: WELD
Facility Name: Adams George GU 1 Facility	Latitude: 40.171240	Longitude: -105.004493	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNE	Sec: 4	Twp: 2N	Range: 68W 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

St. Vrain Creek 830 feet (ft) southeast. Ponds 270 ft south and 1,320 ft southeast. Water well 250 ft west. Livestock 400 ft southwest. Occupied Buildings 1,060 ft southwest and 1,320 ft west. County Road 1,190 ft west and 1,290 ft north. Agriculture. The site is located within a Bald Eagle Roost Site and within a ¼ mile of the boundary of an Aquatic Native Species Conservation Waters High Priority Habitat (HPH) area.

DENIED

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
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 Adams George GU 1 facility on October 3, 2024. Visual inspection and field screening of soil at two aboveground storage tanks (ASTs), one produced water vessel (PWV), one quad separator, two dumpline potholes, one emission control device (ECD), and one meter house location were conducted following removal activities. Soil samples (AST01@0.5', AST02@0.5', PWV-B01@0.5', SEP01-INLET@5', SEP01-OUTLET@5', SEP02-INLET@5', and SEP02-OUTLET@5') were submitted for analysis of full list Table 915-1 constituents, to determine if a release occurred. Laboratory analytical results indicated that polycyclic aromatic hydrocarbon (PAH) impacts exceeding the ECMC Table 915-1 allowable levels were present at the AST01 location. As such, a Form 19 Initial/Supplemental Spill/Release Report (Document No 403947964) was submitted on October 9, 2024, and the ECMC issued Spill/Release Point ID 488162. Initial analytical results indicated that hexavalent chromium exceeding the Table 915-1 allowable level and background level was present at the SEP01-OUTLET02@5' location. A verification sample was collected and the final result was non-detect for hexavalent chromium. The facility soil sample locations are depicted on Figure 1. The PID readings and laboratory analytical results are summarized in Tables 1 and 2.

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 October 3 and October 21, 2024, excavation activities were conducted to address the soil impacts at the former AST01 location and a confirmation soil sample was collected from the base of the excavation at 2 ft below ground surface (bgs). The soil sample was submitted for laboratory analysis of the site-specific waste profile including PAHs and select Table 915-1 metals, using ECMC-approved methods. Analytical results indicated that soil at the final excavation extents was within the ECMC Table 915-1 allowable levels or 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 October 3, 2024, visual inspections and field screening of soil were conducted at the hatch, base, and/or loadout for each AST, two dumpline pothole locations, the ECD, and the meter house. Based on the inspection and screening results, hydrocarbon-impacted soil was 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 13
Number of soil samples exceeding 915-1 10
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 25

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 1.68
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 2

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
0 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. Fifteen background soil samples were collected as part of the Adam Farm 1, 21, 27, 28-4 wellheads decommissioning, located 100 ft east, from similar depths (3-6 ft bgs), and in the same NRCS soil type (wiley-colby complex). The background samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and Table 915-1 metals. Laboratory analytical results indicate that levels of pH, arsenic barium, hexavalent chromium, and lead are high in the soil used to construct the tank battery and EC, arsenic, barium, cadmium, lead, and selenium are naturally high in the native soil. The background soil sample locations are depicted on Figures 1 and 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 320 cubic yards of impacted soil were removed from the site and transported to the Front Range Landfill in Erie, Colorado for disposal. Disposal records are kept on file and available upon request. The excavation areas have been 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 impacts at the AST01 location have been remediated and soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or background levels. 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)
- _____ Chemical oxidation
- _____ Air sparge / Soil vapor extraction
- _____ Natural Attenuation
- _____ Other _____

- Yes _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____ 320
- _____ Name of Licensed Disposal Facility or ECMC Facility ID # _____
- 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 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. 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. 01/28/2025

Proposed date of completion of Reclamation. 01/28/2026

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. 10/07/2024

Actual Spill or Release date, or date of discovery. 10/07/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/03/2024

Proposed site investigation commencement. 10/03/2024

Proposed completion of site investigation. 10/21/2024

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/03/2024

Proposed date of completion of Remediation. 10/21/2024

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: Erik Mickelson

Title: Environmental Lead

Submit Date: 02/20/2025

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: 36598

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.

Att Doc Num**Name**

404073307	FORM 27 DENIED
404073429	ANALYTICAL RESULTS
404073430	PHOTO DOCUMENTATION
404073431	SOIL SAMPLE LOCATION MAP
404073433	ANALYTICAL RESULTS
404073435	ANALYTICAL RESULTS
404073436	ANALYTICAL RESULTS
404073437	ANALYTICAL RESULTS
404074778	SOIL SAMPLE LOCATION MAP
404357473	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 10 Files

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

Environmental	<p>ECMC has denied this Form 27 and NFA request. Gray staining and fluid is visible in the attached photo log, yet the attached analytical data summary tables indicate that staining was not observed in field screened sample, DL01.</p> <p>Operator shall conduct additional investigation in all areas previously exhibiting staining. Operator shall collect confirmation soil samples as described in the Rule 915.e.(2) Guidance Document. Operator will analyze soil samples for TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)).</p>	09/17/2025
Environmental	<p>Operator has submitted only the excavation base sample for laboratory analysis at the location of the former production tank and separator. Additional confirmation soil samples are required from the side walls of remedial excavations.</p> <p>Operator shall collect confirmation soil samples as described in the Rule 915.e.(2) Guidance Document. Operator will analyze soil samples for TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)).</p>	09/17/2025

Environmental	Verification samples of this magnitude are not considered valid. If the Operator chooses to use verification samples for every sample point displaying exceedances of Table 915-1, then the Operator must explain their scientific justification for running multiple reruns/resamples.	09/17/2025
Environmental	Background samples collected under Remediation Project # 36238 were not approved under that remediation project. Background sample TB-BG01@0.5' was collected from an area on-location and is not representative of background conditions. These samples shall be omitted from future background determination calculations. Background sampling locations should be sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, and should be obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples.	09/17/2025
Environmental	Operator shall differentiate through formatting of figures and analytical data summary tables which samples remain in situ vs. which have been remediated on the next Supplemental Form 27. Operator shall conduct a thorough review of all available data and shall propose additional assessment and/or remediation as necessary to address any additional exceedances of Table 915-1 which remain in situ and have not yet been addressed.	05/15/2025

Total: 5 comment(s)