

State of Colorado
Energy & Carbon Management Commission

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Document Number:
403958740
Receive Date:
10/25/2024
Report taken by:
Taylor Robinson

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>(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 #: 35310 Initial Form 27 Document #: 403773061

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>WELL</u>	Facility ID: _____	API #: <u>123-30652</u>	County Name: <u>WELD</u>
Facility Name: <u>MILLER 22-33</u>	Latitude: <u>40.184255</u>	Longitude: <u>-104.786675</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENW</u>	Sec: <u>33</u>	Twp: <u>3N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>123-30655</u>	County Name: <u>WELD</u>
Facility Name: <u>MILLER 31-33</u>	Latitude: <u>40.184407</u>	Longitude: <u>-104.786670</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENW</u>	Sec: <u>33</u>	Twp: <u>3N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: LOCATION	Facility ID: 413308	API #: _____	County Name: WELD
Facility Name: MILLER 18-33	Latitude: 40.184255	Longitude: -104.786675	
** correct Lat/Long if needed: Latitude: 40.184550		Longitude: -104.786263	
QtrQtr: SENW	Sec: 33	Twp: 3N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-30657	County Name: WELD
Facility Name: MILLER 18-33	Latitude: 40.184499	Longitude: -104.786684	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENW	Sec: 33	Twp: 3N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-30660	County Name: WELD
Facility Name: MILLER 21-33	Latitude: 40.184338	Longitude: -104.786676	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENW	Sec: 33	Twp: 3N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 487751	API #: _____	County Name: WELD
Facility Name: Miller 3&6-33A Facility	Latitude: 40.184550	Longitude: -104.786263	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENW	Sec: 33	Twp: 3N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 488124	API #: _____	County Name: WELD
Facility Name: Miller 31-33 Wellhead	Latitude: 40.184407	Longitude: -104.786670	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENW	Sec: 33	Twp: 3N	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

Pond 350 feet (ft) north. Water well 790 ft southeast. Occupied building 1,260 ft northwest. Livestock 830 ft northwest and 1,090 ft north. 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
UNDETERMINED	GROUNDWATER	TBD	Groundwater Samples/Laboratory Analytical Results

Yes	SOILS	TBD	Soil Samples/Laboratory Analytical Results
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INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

Wellhead cut and cap operations were completed at the Miller 18, 21, 22, 31-33 wellheads on August 2, 2024. Visual inspection and field screening of soil around the wellheads and associated pumping equipment were conducted, and soil samples were submitted for analysis of full Table 915-1 constituents to determine if a release occurred. The flowlines associated with the wellheads were removed between August 2 and August 7, 2024, and soil samples were collected from the locations where the flowline risers were disconnected from the wellheads and from the separators. The samples were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial results indicated that barium impacts were present at the former 31-33 wellhead. A verification sample was collected and confirmed the initial results. As such, a Form 19 Spill/Release Report (Document No. 403915551) was submitted on September 11, 2024, and the ECOM issued Spill/Release Point ID 488124. The Form 44 is attached.

Decommissioning activities were completed at the Miller 3&6-33A facility on August 7 and August 9, 2024. Visual inspection and field screening of soil at two aboveground storage tanks (ASTs), one produced water vessel (PWV), four separators, one emission control device (ECD), and one meter house were conducted following removal activities. Samples were submitted for analysis of full list Table 915-1 constituents, to determine if a release occurred. Results indicated that polycyclic aromatic hydrocarbon (PAH), arsenic, barium, cadmium, and selenium impacts exceeding the Table 915-1 standards or background were present at the tank battery. As such, a Form 19 Spill/Release Report (Document No 403884069) was submitted on August 12, 2024, and the ECOM issued Spill/Release Point ID 487751.

The wellhead, flowline, and facility soil sample locations are depicted on Figures 1, 2, and 3. The PID readings and soil sample 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 August 7 and August 12, 2024, excavation activities were conducted at the former tank battery and confirmation soil samples were collected from the base and sidewalls of the excavation at approximately 4.5 ft below ground surface (bgs) and 2 ft bgs, respectively. The samples were submitted for analysis of the excavation-specific waste profile including total petroleum hydrocarbons (TPH), PAHs, boron, pH, and select 915-1 metals, using ECOM-approved methods. Results indicated that PAH, pH, and 915-1 metals impacts exceeding the ECOM Table 915-1 allowable levels and site-specific background levels remain in the excavation. Excavation 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 wellhead cut and cap, flowline removal, or 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 2 and August 7, 2024, visual inspections and field screening of soil were conducted at the base and loadout of each AST, three sidewalls of the PWV excavation, the ECD, the meter house, four sidewall locations within each cut and cap excavation, eight locations at the ground surface adjacent to the cut and cap excavations, and two flowline potholes. Based on the inspection and screening results, impacted soil was not observed at the soil screening locations and no samples were submitted for analysis from these areas in accordance with the ECOM Operator Guidance for Oil & Gas Facility Closure document. A photographic log is attached.

On August 12, 2024, a soil gas survey was conducted at 21 soil vapor points installed adjacent to the former wellhead locations. GEM 5000 field reading was non-detect for methane at all soil vapor points. The soil vapor point locations are illustrated on Figure 1. The soil vapor field form is included as an attachment.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 50

Number of soil samples exceeding 915-1 47

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

Approximate areal extent (square feet) 2400

NA / ND

-- Highest concentration of TPH (mg/kg) 143

-- Highest concentration of SAR 3.52

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 6

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 sample (TB-BG01@0.5') was collected from the soil used to construct the tank battery for comparison to shallow samples collected within the fill material. Fourteen background soil samples (NATIVE-BG01@3' through NATIVE-BG07@3' and NATIVE-BG01@6' through NATIVE-BG07@6') were collected from native material outside of the facility and wellhead excavations. Background 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 arsenic is naturally high in the soil used to construct the tank battery and SAR, pH, boron, arsenic, barium, cadmium, lead, nickel, 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 Figures 1 and 3.

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 at the former tank battery. Assessment activities are ongoing at the 31-33 wellhead and will be summarized 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 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 impacts exceeding the ECMC Table 915-1 allowable level and background level for barium are present at the former 31-33 wellhead and impacts exceeding the ECMC Table 915-1 allowable levels and background levels for PAHs, pH, arsenic, cadmium, copper, lead, nickel, and selenium remain in the tank battery excavation. Groundwater was not encountered during wellhead cut and cap, flowline removal, or facility decommissioning activities. Assessment activities are ongoing and will be summarized 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 _____

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: \$ 43000 _____

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 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. 09/10/2024

Actual Spill or Release date, or date of discovery. 09/10/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/02/2024

Proposed site investigation commencement. 08/02/2024

Proposed completion of site investigation. 04/16/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/02/2024

Proposed date of completion of Remediation. 04/16/2025

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 the condition of approval (COA) issued by the ECMC to Document No. 403867611, Kerr-McGee confirmed that the flowlines for the Miller 21-33 and Miller 22-33 wellheads both go to the same separator and a single separator riser sample was collected in the location where both flowline risers were disconnected from that separator.

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: 10/25/2024

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: Taylor Robinson

Date: 12/26/2024

Remediation Project Number: 35310

COA Type**Description**

<u>COA Type</u>	<u>Description</u>
0 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**

403958740	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403958930	SOIL SAMPLE LOCATION MAP
403958931	ANALYTICAL RESULTS
403958933	OTHER
403958935	PHOTO DOCUMENTATION
403958937	CORRESPONDENCE
403958938	ANALYTICAL RESULTS
403958940	ANALYTICAL RESULTS
403958942	ANALYTICAL RESULTS
403958943	ANALYTICAL RESULTS
403958944	ANALYTICAL RESULTS
403966795	SOIL SAMPLE LOCATION MAP
403966796	SOIL SAMPLE LOCATION MAP
404041138	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 14 Files

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

Environmental	Operator shall refrain from attaching previously submitted attachments on status updates.	12/26/2024
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Total: 1 comment(s)