

State of Colorado
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:
403749350
Receive Date:
04/10/2024
Report taken by:
Laurel Anderson

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>		
City: <u>DENVER</u>	State: <u>CO</u>	Phone: <u>(970) 336-3500</u>
	Zip: <u>80217-3779</u>	Mobile: <u>(713) 350-4906</u>
Contact Person: <u>Ariana Ochoa</u>	Email: <u>DJRemediation_Forms@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 28966 Initial Form 27 Document #: 403361328

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>470881</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>UPRR 42 PanAm R True 1 battery</u>	Latitude: <u>40.128609</u>	Longitude: <u>-104.785728</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NENW</u>	Sec: <u>21</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>486008</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Mullet 6-21A/UP42 O SA</u>	Latitude: <u>40.128609</u>	Longitude: <u>-104.785728</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NENW</u>	Sec: <u>21</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 SC

Most Sensitive Adjacent Land Use crop land

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

Water well: 244'
Surface Water: 453'
Wetlands: 933'
Springs: none
Livestock: none
Occupied Building: 209'
High Priority Habitats: none

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	Inspection/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.

Facility decommissioning activities were completed at the Mullet 6-21A, UP42 O SA location on August 4, 2023. Groundwater was encountered within the wellhead excavation at approximately 6' bgs. Visual inspection and field screening of soils at one separator, one meter house, one produced water vessel (PWV), one emission control device (ECD), and one aboveground storage tank (AST) was conducted following removal activities, and soil samples (SEP-B01@4', SEP-B02@4', PW-B01@6', PW-N01@3', and AST-B01@3") were submitted for laboratory analysis to determine if a release occurred. In addition, during reclamation activities that commenced on January 31, 2024, two waste characterization samples were collected and submitted for laboratory analysis. Laboratory analytical results indicated that soil sample AST-B01@3" contained pH concentration and soil samples REC Waste Characterization-01@1' and REC Waste Characterization-02@1' contained TPH, naph., TMBs, pH, SAR, 1 and 2 methylnaphthalene, arsenic, barium, and lead concentrations exceeding applicable ECMC Table 915-1 standards and background concentrations. As such, a Form 19-Initial Spill/Release Report (ECMC Document No. 403675718) was submitted on February 5, 2024, and the ECMC issued Spill/Release Point ID 486008. A topographic Site Location Map showing the geographic setting of the site location is provided as Figure 1. Soil sample location and field screening data are presented in Table 1. The soil sample and field screening locations are illustrated on Figures 2 and 3. The laboratory analytical reports are provided as Attachment A. The field notes and a photographic log are provided as Attachment B.

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):

From August 4, 2023, through March 29, 2024, soil samples were collected from the base (PW-B01@6') and sidewall PW-N01@3') of the PWV excavation, the separator excavation (SEP-B01@4', SEP-B02@4'), and beneath the AST (AST-B01@3"). In addition, 6 reclamation confirmation soil samples were collected to further assess soil impacts. The decommissioning soil samples were submitted for laboratory analysis of BTEX, naphthalene, TMBs, TPH-GRO (C6-C10), TPH-DRO (C10-C28), TPH-ORO (C28-C40), pH, EC, SAR, and boron using ECMC approved methods, as approved in the Form 27 Initial dated April 4, 2023 (Document No. 403361328). Laboratory analytical results indicated that soil sample ASTB01@3" contained a pH concentration exceeding the ECMC Table 915-1 standard/background concentrations. Assessment activities are ongoing. Soil analytical results are presented in Tables 2 and 3. The laboratory analytical reports are provided as Attachment A.

Proposed Groundwater Sampling

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

Groundwater was encountered within the wellhead excavation at approximately 6' bgs. On August 16, 2023, groundwater sample (GW-01) was collected from the excavation area and submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-TMB, and 1,3,5-TMB by USEPA Method 8260D. Groundwater analytical results indicated that constituent concentrations in GW-01 was in compliance with ECMC Table 915-1 standards. The groundwater sample location is illustrated on Figure 2.

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):

From August 4, 2023, through March 29, 2024, visual inspections and field screening of soils was conducted at three sidewalls of the PWV excavation, one ECD, one former meter house, and one former AST location. 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. Soil sample location and field screening data are presented in Table 1. Soil analytical results are summarized in Tables 2 and 3. The soil sample and field screening locations are illustrated on Figure 2. The laboratory analytical reports are provided as Attachment A. The field notes and photographic log are provided as Attachment B.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 24

Number of soil samples exceeding 915-1 11

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

Approximate areal extent (square feet) 4100

NA / ND

-- Highest concentration of TPH (mg/kg) 6560

-- Highest concentration of SAR 59.8

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 5

Groundwater

Number of groundwater samples collected 1

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 6

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

ND Highest concentration of Benzene (µg/l) _____

ND Highest concentration of Toluene (µg/l) _____

ND Highest concentration of Ethylbenzene (µg/l) _____

ND Highest concentration of Xylene (µg/l) _____

NA 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?

Background soil samples PW-BG01@3' - PW-BG02@3' and PW-BG01@6' - PW-BG02@6', REC-BG-01@1' - REC-BG-03@1', and AST-BG01@3" - AST-BG03@3" were collected from native material within non-impacted areas with similar lithology and land use to the facility excavation. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters and metals using standard methods appropriate for detecting target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 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?

Additional assessment activities still need to be completed.

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.

Additional sampling activities will be completed to further assess remaining soil impacts.

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.

Additional assessment activities still need to be completed.

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 Colorado Oil and Gas Conservation 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: \$ 7000 _____

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. 07/28/2022

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/04/2023

Proposed site investigation commencement. _____

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/04/2023

Proposed date of completion of Remediation. _____

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

--

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: 04/10/2024

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: Laurel Anderson

Date: 04/18/2024

Remediation Project Number: 28966

COA Type**Description**

	<p>This Form 27 Supplemental is being approved as submitted. However, the next Form Supplemental must be populated with the Adequacy of Operator's General Liability Insurance and Financial Assurance data field under the Remediation Progress Update tab as required by Rules 703.b. and 705.b.</p> <p>Note: Based on the scope of work proposed ECMC does not believe Operator anticipated the remaining cost for this project is adequate.</p>
	<p>Operator shall fully populate the Remedial Action Plan of the subsequent Supplemental Form 27 to reflect ongoing site investigation and remediation activities.</p>
	<p>Operator shall fully populate the implementation schedule in accordance with Rule 913.d on the subsequent Supplemental Form 27.</p>
	<p>Per Comment on Form 19s Doc #403683537: "Note: Quarterly reporting is required under Remediation Project #28966. Operator is past due on quarterly reporting. The last Form 27 was received on 4/3/2023 (Doc #403361328). Operator shall submit a Supplemental Form 27 for this project within 10 days (and prior to requesting closure of this release) and include the Spill/Release Point ID associated with this form and select Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912 in addition to the previous Rule selection. Operator is out of compliance with Rule 913.e.(3)."</p> <p>ECMC added Spill ID 486008 and selected Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912. in addition to the current selection. Operator shall include the Spill ID and Rule selection on all future Supplemental Form 27s.</p>
	<p>Multiple background samples reported to date have been collected from areas on location adjacent to oil and gas activity (oil and gas infrastructure and/or existing undelineated soil impacts) and do not appear to be representative of background conditions near the production facility and historic release(s). Operator shall provide justification for the use of their background samples for their site-specific background determination.</p> <p>If Operator proposes additional background sampling; Operator shall obtain background samples from locations not impacted by oil and gas activity, and from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples.</p>
	<p>Per COA on Form 27i Doc #403361328: "On the Supplemental Form 27 following on-location flowline abandonment, Operator shall provide the associated Form 42 – Abandonment of Flowlines Verification Report document number required by Rule 1105.f.(1)."</p> <p>Operator has not complied with this condition of approval.</p>

	<p>Per COA on Form 27i Doc #403361328: "Operator will submit a Form 42 for pre-abandonment notice pursuant to Rule 1105.d. A Form 42 will be filed prior to starting flowline abandonment, and will be included in the Related Forms in a supplemental Form 27. Abandonment will occur per the requirements of Rule 1105. During flowline abandonment, any liquids evacuated from the flowline will be contained and disposed per the requirements of Rule 905. Note: Approval of this Form 27 does not imply approval of pre-abandonment required by Rule 1105.d."</p> <p>Operator has not complied with this condition of approval.</p>
	<p>Operator has not collected samples according to the approved sampling. Operator shall collect samples for field screening and laboratory analysis from all proposed locations in accordance with the proposed sampling plan that was approved with the Initial Form 27 (Doc #403361328).</p>
8 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.

<u>Att Doc Num</u>	<u>Name</u>
403749350	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403749428	PHOTO DOCUMENTATION
403749431	SITE MAP
403749433	SOIL SAMPLE LOCATION MAP
403749435	SOIL SAMPLE LOCATION MAP
403749437	ANALYTICAL RESULTS
403749439	ANALYTICAL RESULTS
403760818	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 8 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	<p>Per COA on Form 27i Doc #403361328: "In accordance with Rule 913.e.(3), Operator will adopt a quarterly reporting schedule. COGCC selected Quarterly under Remediation Progress Update.". Operator has not submitted quarterly updates (90 days) nor submitted a Supplemental Form 27 upon receipt of laboratory analytical data from samples collected in August of 2023 until this form (Doc #403749350 received 4/10/2024 after ECMC request).</p>	04/18/2024

Total: 1 comment(s)