

State of Colorado
Energy & Carbon Management Commission

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Receive Date:

Report taken by:

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 28512 Initial Form 27 Document #: 403355589

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: WELL	Facility ID: _____	API #: 123-18460	County Name: WELD
Facility Name: UPRC 9-12J5	Latitude: 40.235424	Longitude: -104.676401	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 9	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-28045	County Name: WELD
Facility Name: REI H 9-33D	Latitude: 40.235406	Longitude: -104.676553	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 9	Twp: 3N	Range: 65W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL Facility ID: API #: 123-29814 County Name: WELD
 Facility Name: REI H 9-32D Latitude: 40.235462 Longitude: -104.676580
 ** correct Lat/Long if needed: Latitude: Longitude:
 QtrQtr: SWSW Sec: 9 Twp: 3N Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Milton reservoir
 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

Water well: none
 Surface water: none
 Wetlands: none
 Springs: none
 Livestock: none
 Occupied Building: 330'
 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.

Wellhead cut and cap operations and flowline removal activities were completed at the REI H 9-32D, REI H9-33D, and UPRC 9-12J5 wellheads on June 6 and August 22, 2023. Groundwater was not encountered wellhead cut and cap operations and flowline removal activities. Visual inspection and field screening of soils around the wellhead and associated flowline was conducted following wellhead cut and cap operations, and a soil samples (WH-B01@6', WH-B01@6', WH-B01@8') were submitted for laboratory analysis to determine if a release occurred. The removal of the associated flowlines was completed from June 6 through September 19, 2023. Soil samples were collected from the locations where the flowline risers were disconnected at the wellheads (FL-B01@4', FL-B09@4', FL-B01@4'), separators (FL-B07@4', FL-B08@4', FL-B01@4', FL-B08@4'), and directional changes (FL-B05@4', 9-32D:FL-B06@4', 9-33D:FL-B06@4', FL-B07@4') and submitted for laboratory analysis to determine if a release occurred. Laboratory analytical results indicated that the naphthalene concentrations in flowline soil samples (REI H 9-32D: FL-B06@4', FL-B07@4', FL-B08@4') and the naphthalene and 1,2,4-TMB concentrations in flowline soil samples (REI H 9-33D: FL-B03@4', FL-B06@4', and FL-B07@4') exceeded the applicable ECMC Table 915-1 standards. As such, two Form 19-Initial/Supplemental Spill/Release Reports (ECMC Document No. 403428598-REI H 9-33D and 403428605-REI H 9-32D) were submitted on June 10, 2023, and the ECMC issued Spill/Release Point IDs 484590 and 484591, respectively. Soil sample location and field screening data are presented in Table 1. The flowline excavation soil sample locations are illustrated on Figure 1.

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 June 6, 2023 - July 2, 2024, excavation activities were conducted to address remaining soil impacts at the impacted areas of the former flowlines (REI H 9-32D: FL-B06@4', FL-B07@4', FL-B08@4') and (REI H 9-33D: FL-B03@4', FL-B06@4', and FL-B07@4'). Two (2) Confirmation soil samples were collected from the base (FL-B11@16') and sidewall (FL-E09@12') of the excavation extent at depths of 12' and 16' bgs. Based on the waste characterization results (REI H 9-32D: FL-B06@4', FL-B07@4', FL-B08@4') and (REI H 9-33D: FL-B03@4', FL-B06@4', and FL-B07@4'), the soil samples were submitted for laboratory analysis of the site-specific waste characterization using ECMC-approved methods. Laboratory analytical results are pending. Assessment activities are ongoing and will be summarized in a forthcoming Form 27-Supplemental.

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 operations and flowline removal activities. If groundwater is encountered during remediation activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene (TMB), and 1,3,5-TMB, using standard methods appropriate for detecting the target analytes in ECMC Table 915-1.

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 June 6 through September 19, 2023, visual inspection and field screening of soils was conducted at 12 sidewall locations within the cut and cap excavation area, 12 locations at the ground surface adjacent to the excavation, and 11 flowline removal pothole excavations. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the screening locations, and no soil samples were submitted for laboratory analysis from these areas in accordance with the ECMC Operator Guidance. On June 9 and August 24, 2023, a soil gas survey was conducted at 13 soil vapor points (SVP01-SVP05) installed adjacent to the former wellhead locations following cut and cap operations. GEM 5000 field readings were non-detect for methane at all 13 soil vapor points. SVP screening results are presented in Tables 6-8. The photographic log is attached.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil	NA / ND
Number of soil samples collected <u>74</u>	-- Highest concentration of TPH (mg/kg) <u>302</u>
Number of soil samples exceeding 915-1 <u>51</u>	-- Highest concentration of SAR <u>3.73</u>
Was the areal and vertical extent of soil contamination delineated? <u>No</u>	BTEX > 915-1 <u>No</u>
Approximate areal extent (square feet) <u>675</u>	Vertical Extent > 915-1 (in feet) <u>14</u>
Groundwater	
Number of groundwater samples collected <u>0</u>	Highest concentration of Benzene (µg/l) _____
Was extent of groundwater contaminated delineated? <u>No</u>	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?

Background soil samples WH-BG01 through WH-BG05 were collected from native material adjacent to the wellhead cut and cap excavations at depths ranging from 3' to 10' bgs. Background soil samples FL-BG01 through FL-BG14 were collected from native material adjacent to the flowline excavations at depths ranging from 5' to 18' bgs. The background soil samples were submitted for laboratory analysis of the Soil Suitability for reclamation Parameters in Soils and/or Table 915-1 metals using standard methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil samples are presented in Table 3 and 5.

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 and assessment activities are ongoing and will be summarized in a forthcoming Form 27-Supplemental.

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.

Excavation and assessment activities are ongoing and will be summarized in a forthcoming Form 27-Supplemental.

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.

Excavation and assessment activities are ongoing and will be summarized in a forthcoming Form 27-Supplemental.

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 Progress Report _____

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 ECMC. 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: \$ 27500 _____

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. 01/24/2023

Actual Spill or Release date, or date of discovery. 06/09/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/06/2023

Proposed site investigation commencement. 06/06/2023

Proposed completion of site investigation. 09/19/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/09/2023

Proposed date of completion of Remediation. 12/31/2024

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

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: _____

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: 28512

COA Type**Description**

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**

403867298	PHOTO DOCUMENTATION
403867299	ANALYTICAL RESULTS
403871013	SOIL SAMPLE LOCATION MAP
403871041	ANALYTICAL RESULTS

Total Attach: 4 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)