

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
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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>(970) 336-3500</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		Mobile: <u>(970) 515-1698</u>
Contact Person: <u>Gregory Hamilton</u>	Email: <u>gregory_hamilton@oxy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 29084 Initial Form 27 Document #: 403377779

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

No Multiple Facilities

Facility Type: <u>LOCATION</u>	Facility ID: <u>409821</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>MORNING FRESH-63N66W 10SESW</u>	Latitude: <u>40.233740</u>	Longitude: <u>-104.765120</u>	
	** correct Lat/Long if needed: Latitude: <u>40.232398</u>	Longitude: <u>-104.764032</u>	
QtrQtr: <u>SESW</u>	Sec: <u>10</u>	Twps: <u>3N</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 Crop land
 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

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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
No	GROUNDWATER	No hydrocarbon impacts observed	Groundwater samples/laboratory analytical results
Yes	SOILS	12' (N-S) x 14' (E-W) x 5' bgs	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.

Decommissioning activities were completed at the Morning Fresh 14-10X O SA production facility on June 23, 2023. Groundwater was encountered in the excavation area at approximately 5 feet bgs during decommissioning activities. Visual inspection and field screening of soils at one separator, one meter house, one emissions control device (ECD), one produced water vessel (PWV), one above ground storage tank (AST), and one dump line pothole was conducted following removal activities, and soil samples (SEP-B01@5', SEP-B02@5', PW-S01@2.5', PW-B01@5', and AST-B01@3") were submitted for laboratory analysis to determine if a release occurred. Laboratory analytical results for PW-S01@2.5' and AST-B01@3" indicated that sodium adsorption ratio (SAR) impacts exceeding ECMC Table 915-1 were present at the former facility infrastructure locations. As such, a Form 19-Initial/Supplemental Spill/Release Report (ECMC Document No.403449993) was submitted on June 30, 2023 and the ECMC issued Spill/Release Point ID 484720. The remaining analytical results for the soil samples collected were in compliance with ECMC standards. 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 is presented in Table 1. The facility soil sample and field screening locations are illustrated on Figure 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):

From June 23, 2023 through August 24, 2023, excavation activities were conducted to address remaining soil impacts at the former AST location and PWV location and 5 confirmation soil samples were collected from the final excavation extent at depths ranging from 2' - 2.5' bgs and submitted for laboratory analysis of pH and SAR using standard methods appropriate for detecting the target analytes. Analytical results indicated that constituent concentrations in the soil samples collected from the final excavation extents were in compliance with the applicable ECMC Table 915-1 standards and/or within site-specific background levels and analytical variability. Soil analytical results are summarized 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 in the produced water vessel excavation area at approximately 5 feet bgs. On August 25, 2023, a groundwater sample was collected from the produced water vessel excavation (GW-01) and submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-TMB, and 1,3,5-TMB by USEPA method 8260D. Analytical results indicated that constituent concentrations in groundwater sample GW-01 were in compliance with the applicable ECMC Table 915-1 standards. The groundwater analytical results are summarized in Table 4. The groundwater sample location is illustrated in Figure 2. Additionally, groundwater was never in contact with impacted soil. Therefore, no further action is necessary.

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 23, 2023, visual inspections and field screening of soils was conducted at three sidewalls of the PWV excavation, one former meter house, one former ECD, one former AST, and one dump line 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 report is provided as Attachment A. The field notes are photographic log are provided as Attachment B.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 14

Number of soil samples exceeding 915-1 2

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

Approximate areal extent (square feet) 168

Groundwater

Number of groundwater samples collected 1

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 5

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

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.

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 11.9

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 0

 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)

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') were collected from native material adjacent to the produced water vessel excavation with similar lithology, land use, and depth. The background soil samples were submitted for laboratory analysis of Soil Suitability for Reclamation Parameters using standard methods appropriate for detecting target analytes in Table 915-1. Analytical results for the background soil samples are presented in Table 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?

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.

Between June 23, 2023 and August 24, 2023, approximately 30 cubic yards of impacted soil was excavated and transported to the Buffalo Ridge Landfill located in Keenesburg, Colorado for disposal. Laboratory data indicate that impacted soils in the excavation areas have been remediated to be in compliance with the ECOM Table 915-1 standards and/or within the range of site specific background concentrations or acceptable range of analytical variability. 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 impacted soils in the excavation areas have been remediated to be in compliance with the ECMC Table 915-1 standards and/or within the range of site specific background concentrations or acceptable range of analytical variability. Groundwater was encountered in the produced water vessel excavation area at approximately 5 feet bgs. On August 25, 2023, a groundwater sample was collected from the produced water vessel excavation (GW-01) and submitted for laboratory analysis of BTEX, naphthalene, 1,2,4-TMB, and 1,3,5-TMB by USEPA method 8260D. Analytical results indicated that constituent concentrations in groundwater sample GW-01 were in compliance with the applicable ECMC Table 915-1 standards and was never in contact with impacted soil. Based on analytical and soil screening data presented herein, assessment is complete at this site and no further activities are required. As such, Kerr-McGee 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) _____ 30
- _____ 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other Final Report

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 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 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: \$ 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:

NA

Volume of E&P Waste (solid) in cubic yards 30

E&P waste (solid) description impacted soil

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Buffalo Ridge Landfill

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. Timeliness of reclamation initiation 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. 02/06/2025

Proposed date of completion of Reclamation. 03/06/2025

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. 03/01/2023

Actual Spill or Release date, or date of discovery. 06/29/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/25/2023

Proposed site investigation commencement. 04/25/2023

Proposed completion of site investigation. 08/24/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/25/2023

Proposed date of completion of Remediation. 08/24/2023

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

At time of excavation activities, pH concentrations were in compliance with the ECMC parameters to request a NFA. Based on the analytical and soil screening data provided herein, assessment is complete and Kerr-McGee is requesting an 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: Gregory Hamilton

Title: Environmental Lead

Submit Date: 03/07/2024

Email: gregory_hamilton@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: Alexander Ahmadian

Date: 04/12/2024

Remediation Project Number: 29084

COA Type**Description**

	Operator shall provide the Document numbers or attach the Form 42 associated for the on-location flowline abandonment on all future NFA requests.
	Based on the information presented, it appears the elevated pH sample appears to be de minimis in quantity or within the range of background pH; therefore, elevated pH may not be associated with E&P activities. It appears that no further remedial action is necessary at this time and the ECMC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or background levels or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required. 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.
2 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.

Att Doc Num**Name**

403709492	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403709812	ANALYTICAL RESULTS
403709813	ANALYTICAL RESULTS
403709815	SITE MAP
403709817	SOIL SAMPLE LOCATION MAP
403709820	OTHER
403752253	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 7 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)