

State of Colorado  
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
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Receive Date:

02/20/2025

Report taken by:

Grace Rollins

## 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 &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 35204 Initial Form 27 Document #: 403753489

## 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 #: 123-08062	County Name: WELD
Facility Name: ADOLPH ANDERSON UNIT 1	Latitude: 40.119181	Longitude: -104.769336	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 22	Twp: 2N	Range: 66W Meridian: 6 Sensitive Area? Yes

  

Facility Type: LOCATION	Facility ID: 317970	API #: _____	County Name: WELD
Facility Name: ADOLPH ANDERSON UNIT-62N66W 22SWSW	Latitude: 40.119180	Longitude: -104.769340	
** correct Lat/Long if needed: Latitude: 40.119145		Longitude: -104.770261	
QtrQtr: SWSW	Sec: 22	Twp: 2N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 487488	API #:	County Name: WELD
Facility Name: Anderson Adolph UT1	Latitude: 40.119145	Longitude: -104.770261	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWSW	Sec: 22	Twp: 2N	Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 487612	API #:	County Name: WELD
Facility Name: Anderson, Adolph Unit 1	Latitude: 40.119181	Longitude: -104.769336	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWSW	Sec: 22	Twp: 2N	Range: 66W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SM	Most Sensitive Adjacent Land Use Occupied Buildings
Is domestic water well within 1/4 mile? Yes	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 650 feet (ft) northwest. Occupied buildings 800 ft northwest, 820 ft south, 830 ft north, 830 ft northeast, and 870 ft southeast. Livestock 170 ft southwest, 490 ft northeast, 600 ft north, and 1,100 east, and 1,130 ft southeast. County Roads 960 ft west and 990 ft south.

## 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
Yes	SOILS	See attached data.	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 & cap operations were completed at the Anderson Adolph Unit 1 wellhead on 7/12/24. Groundwater was not encountered in the wellhead cut & cap excavation. Visual inspection & field screening of soil around the wellhead & associated pumping equipment were conducted following cut & cap operations. A soil sample was collected from the base of the excavation. The flowline associated with the wellhead was removed between 7/12 & 7/17/24. Samples were collected from where the flowline risers were disconnected from the wellhead & separator. Samples were submitted for analysis of full list Table 915-1 constituents to determine if a release occurred. Initial results indicated that pH &/or lead impacts were present at the wellhead. A Form 19 Report (Doc# 403891201) was submitted on 8/16/24 & the ECMC issued Point ID 487612. Verification samples & additional background samples were collected & final results were within allowable levels or x1.25 background levels for Table 915-1 metals. The Form 44 is attached.

Decommissioning activities were completed at the Anderson Adolph Facility on 7/17/24. Visual inspection & field screening of soil at one aboveground storage tank (AST), one produced water vessel (PWV), one meter house, one emission control device (ECD), two dumphline potholes, one gas scrubber, & one separator were conducted following removal activities. Soil samples were submitted for analysis of full list ECMC Table 915-1 constituents to determine if a release occurred. Results indicated that benzene, 1,2,4- & 1,3,5-trimethylbenzene (TMBs), &/or polycyclic aromatic hydrocarbon (PAH) impacts exceeding Table 915-1 allowable levels & background levels were present at the separator & one dumphline pothole. A Form 19 Report (Doc# 403859750) was submitted on 7/22/24 & the ECMC issued Point ID 487488.

The wellhead, flowline, & facility soil sample locations are depicted on Figures 1, 2, & 3. The PID readings & soil sample results are summarized in Tables 1 & 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 7/17 and 11/7/24, excavation activities were conducted to address remaining soil impacts at the former separator & dumpline locations & 18 soil samples were collected from the base & sidewalls of each excavation at 6 & 3 ft below ground surface (bgs), respectively. The samples were submitted for analysis of the excavation-specific waste profile including total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, total xylenes (BTEX), TMBs, PAHs, pH, boron, &/or select Table 915-1 metals using ECMC-approved methods. Initial results indicated that pH concentrations below & barium concentrations exceeding the ECMC Table 915-1 allowable levels & background levels were present at the separator excavation. Verification samples were collected to confirm the initial results. Final results indicated that all samples at the final excavation extents were within the Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. 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 operations.

## 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 April 12, 2024, visual inspection and field screening of soils were conducted at four sidewall locations within the cut and cap excavation area, four locations at the ground surface adjacent to the cut and cap excavation, and one pothole location. 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. A photographic log is attached.

A soil gas survey was attempted at five soil vapor points (SVPs) installed near the former wellhead following cut and cap activities; however, upon arrival to the site, it was determined that all five SVPs had been destroyed by wildlife and could not be screened.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 33

Number of soil samples exceeding 915-1 28

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

Approximate areal extent (square feet) 681

### NA / ND

-- Highest concentration of TPH (mg/kg) 115.2

-- Highest concentration of SAR 1.85

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 6

### 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

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?

Twenty-four background soil samples (NATIVE-BG01@2.5' through NATIVE-BG09@2.5', NATIVE-BG01@5' through NATIVE-BG09@5', NATIVE-BG10@3' through NATIVE-BG12@3', and NATIVE-BG10@6' through NATIVE-BG12@6') were collected from native material adjacent to the wellhead cut and cap and facility excavation areas. Twelve background samples were also collected as part of the Sugihara 43-21 decommissioning activities (Rem No. 35214), located 1610 ft northwest, from similar depths (3' and 6' bgs), and NCRS soil type (sandy loam). Background soil samples were submitted for laboratory analysis of pH, electrical conductivity (EC), sodium adsorption ratio (SAR), boron, and ECMC Table 915-1 metals using ECMC-approved methods. Analytical results indicate that SAR, pH, arsenic, barium, hexavalent chromium, lead, and selenium are naturally high in the native soil. The background soil sample analytical results are summarized in Table 2. The background soil sample locations are illustrated on Figures 1 and 4.

☐ 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 240 cubic yards of impacted soil were removed from the facility and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado for disposal. Approximately 60 cubic yards of impacted soil were removed from the wellhead and transported to the Buffalo Ridge Landfill in Keenesburg, Colorado for disposal. Disposal records are kept on file and are available upon request. The excavation areas have been backfilled and contoured to match pre-existing conditions.

### 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.

Laboratory data indicate that BTEX, TMB, and/or PAH impacts have been remediated and all soil at the final excavation extents is within the ECMC Table 915-1 allowable levels or background levels x1.25 for Table 915-1 metals. Groundwater was not encountered during wellhead cut and cap, flowline removal, or 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 )

Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 300

\_\_\_\_\_ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_

\_\_\_\_\_ Natural Attenuation

No \_\_\_\_\_ 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 NFA Status 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 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: \$ 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 300

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? 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? 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 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. 01/24/2025

Proposed date of completion of Reclamation. 01/24/2026

## 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. 07/19/2024

Actual Spill or Release date, or date of discovery. 07/18/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/12/2024

Proposed site investigation commencement. 07/12/2024

Proposed completion of site investigation. 11/07/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/12/2024

Proposed date of completion of Remediation. 11/07/2024

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: Grace Rollins

Date: 05/15/2025

Remediation Project Number: 35204

**COA Type****Description**

	Closure request removed. Arsenic and lead concentrations in confirmation soil samples exceed the Table 915-1 standards and are greater than 1.25 times their respective concentrations in the background samples. Operator will provide additional data to characterize arsenic and lead concentrations at the site in the next quarterly report.
	Analytical data from off-location background samples (Remediation Project No. 35214) does not appear to be representative of background conditions near the location. These samples shall be omitted from future background determination calculations.

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**

404064163	FORM 27-SUPPLEMENTAL-SUBMITTED
404064264	CORRESPONDENCE
404064268	PHOTO DOCUMENTATION
404065827	SOIL SAMPLE LOCATION MAP
404065832	SOIL SAMPLE LOCATION MAP
404069000	ANALYTICAL RESULTS
404069007	ANALYTICAL RESULTS
404069101	ANALYTICAL RESULTS
404069772	SOIL SAMPLE LOCATION MAP
404069773	SOIL SAMPLE LOCATION MAP
404100603	ANALYTICAL RESULTS
404100604	ANALYTICAL RESULTS
404100605	ANALYTICAL RESULTS

Total Attach: 13 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)