

State of Colorado  
Energy & Carbon Management Commission

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Receive Date:  
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Report taken by:  
Kari Brown

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 &amp; GAS ONSHORE LP</u>	Operator No: <u>47120</u>	<b>Phone Numbers</b>
Address: <u>P O BOX 173779</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80217-3779</u>
Contact Person: <u>Gregory Hamilton</u>	Email: <u>Gregory_Hamilton@oxy.com</u>	
		Phone: <u>(970) 336-3500</u>
		Mobile: <u>(970) 515-1698</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 31072 Initial Form 27 Document #: 403487004

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>123-31729</u>	County Name: <u>WELD</u>
Facility Name: <u>BRYANT 36-30</u>	Latitude: <u>40.103058</u>	Longitude: <u>-105.041725</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>30</u>	Twp: <u>2N</u>	Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>123-31730</u>	County Name: <u>WELD</u>
Facility Name: <u>BRYANT 16-30</u>	Latitude: <u>40.103067</u>	Longitude: <u>-105.041443</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESE</u>	Sec: <u>30</u>	Twp: <u>2N</u>	Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: WELL	Facility ID: _____	API #: 123-31755	County Name: WELD
Facility Name: BRYANT 23-30	Latitude: 40.103060	Longitude: -105.041669	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 30	Twp: 2N	Range: 68W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Non-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**

The nearest domestic water well is located approximately 1,050 feet northeast of the wellhead.  
 Surface water is located approximately 1,370 feet south of the wellhead.  
 A wetland is located approximately 150 feet west of the wellhead.  
 The wellhead is located within a designated high-priority habitat.

**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 impacts encountered	Groundwater samples/laboratory analytical results
No	SOILS	No impacts encountered	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 were completed at the Bryant 16, 23, 36-30 wellheads on November 8, 2023. Groundwater was encountered in the wellhead cut and cap excavation areas at approximately 6 feet below ground surface (bgs). Visual inspection and field screening of soils around the wells and associated pumping equipment was conducted following cut and cap operations, and a soil samples were submitted for laboratory analysis to determine if a release occurred. The flowlines associated with these wellheads were removed on November 8 through 14, 2023, and soil samples were collected from the locations where the flowline risers were disconnected at the wellheads and separators, and where the flowlines changed direction, and submitted for laboratory analysis to determine if a release occurred. Laboratory analytical results indicated that the barium (Ba), cadmium (Cd) and/or pH results for soil samples 36-WH-B01@6', 23-WH-B01@6', and 16-FL-B01@4' exceeded the ECMC Table 915-1 standards and/or the range of site-specific background levels (x 1.25 for metals). As such, 3 verification soil samples (36-WH-B01R@6', 23-WH-B01R@6', and 16-FL-B01R@4') were collected on January 8, 2024, to confirm the initial results, and were submitted for laboratory analysis of Ba, Cd, and/or pH only. Analytical results for the verification soil samples indicated that the final Ba, Cd, and/or pH results were in compliance with ECMC Table 915-1 and/or within the range of site-specific background levels (x 1.25 for metals). A topographic Site Location Map showing the geographic setting of the site is provided as Figure 1. Soil sample location and field screening data are presented in Table 1. Soil analytical results are summarized in Tables 2 through 5. Groundwater analytical results are summarized in Table 6. The wellhead soil sample and field screening locations are illustrated on Figure 2. The flowline soil sample locations are illustrated on Figure 3.

**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 ):

On November 8 through 14, 2023, a total of 15 soil samples were collected from the bases of the 3 cut and cap excavation areas, and from 9 locations along the former flowline. The soil samples were submitted for laboratory analysis of the full Table 915-1 analytical suite or for Ba, Cd, and/or pH only (36-WH-B01R@6', 23-WH-B01R@6', and 16-FL-B01R@4') to verify the initial results. Analytical results indicate that constituent concentrations in the 12 confirmation soil samples and/or the 3 subsequent verification soil samples were in compliance with ECMC Table 915-1 standards, and/or within the range of site-specific background concentrations (x 1.25 for metals). Soil analytical results are summarized in Tables 2 through 5.

**Proposed Groundwater Sampling**

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

Groundwater was encountered in the wellhead cut and cap excavation areas at approximately 6 feet bgs. On November 8, 2023, groundwater samples 16-GW01, 23-GW01, and 36-GW01 were collected from the wellhead excavation areas and submitted for laboratory analysis of BTEX, naphthalene, 1,2,4- and 1,3,5-TMB by USEPA Method 8260D. Analytical results indicated that constituent concentrations in the 3 groundwater samples collected from the cut and cap excavation areas were in compliance with ECMC Table 915-1 standards. The groundwater sample locations are illustrated on Figure 2. The groundwater analytical results are summarized in Table 6.

**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 November 8, 2023, soil screening activities were conducted at 12 sidewall locations within the 3 cut and cap excavation areas, and 4 locations at the ground surface adjacent to the excavations. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at any of the soil screening locations, and no soil samples were submitted for laboratory analysis in accordance with ECMC Operator Guidance. On November 14, 2023, a soil gas survey was conducted at 3 soil vapor points (SVP01 - SVP03) installed adjacent to each of the 3 former wellhead locations following cut and cap operations. GEM 5000 field readings were non-detect for methane at all 9 soil vapor points. The SVP locations are illustrated on Figure 2 and SVP screening results are summarized in Table 7. The laboratory analytical reports are provided as Attachment A. The field notes and a photographic log are provided as Attachment B.

**SITE INVESTIGATION REPORT**

**SAMPLE SUMMARY**

**Soil**

Number of soil samples collected 15  
 Number of soil samples exceeding 915-1 3  
 Was the areal and vertical extent of soil contamination delineated? Yes  
 Approximate areal extent (square feet) 0

**NA / ND**

-- Highest concentration of TPH (mg/kg) 36.5  
 -- Highest concentration of SAR 5.63  
 BTEX > 915-1 No  
 Vertical Extent > 915-1 (in feet) 0

**Groundwater**

Number of groundwater samples collected 3  
 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?

Eight (8) background soil samples were collected from undisturbed native material adjacent to the wellhead excavation areas, at comparable depths and soil composition to the confirmation soil samples. Additionally, four (4) background soil samples were collected from undisturbed native material adjacent to the associated Bryant 9&34-30A O SA production facility location, at comparable depths and soil composition to the confirmation soil samples. The background soil samples were submitted for laboratory analysis of Table 915-1 metals and the Soil Suitability for Reclamation Parameters, using standard ECMC-approved methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil samples are presented in Tables 4 and 5. The background soil sample locations are illustrated on Figures 2 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?

## 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.

Laboratory analytical results indicate that constituent concentrations in the 12 confirmation soil samples and/or the 3 subsequent verification soil samples collected during wellhead cut and cap and flowline removal activities were in compliance with ECMC Table 915-1 standards, and/or within the range of site-specific background levels (x 1.25 for metals). As such, no soils were removed during wellhead cut and cap or flowline removal operations. The excavation areas were backfilled and contoured to match pre-existing site 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 analytical results indicate that constituent concentrations in the 12 confirmation soil samples and/or the 3 subsequent verification soil samples collected during wellhead cut and cap and flowline removal activities were in compliance with ECMC Table 915-1 standards, and/or within the range of site-specific background levels (x 1.25 for metals). Laboratory analytical results indicate that constituent concentrations in the 3 groundwater samples collected during wellhead cut and cap activities were in compliance with the ECMC Table 915-1 standards. Based on the 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 )

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

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

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

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

\_\_\_\_\_ Name of Licensed Disposal Facility or COGCC 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    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 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?    No

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?    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. 08/01/2024

Proposed date of completion of Reclamation. 11/30/2024

## 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. 06/28/2023

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/08/2023

Proposed site investigation commencement. 11/08/2023

Proposed completion of site investigation. 01/08/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. \_\_\_\_\_

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**

Assessment is complete and Kerr-McGee is requesting an NFA determination for this location, based on the analytical and soil screening data provided herein.

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: 02/06/2024

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: Kari Brown

Date: 04/08/2024

Remediation Project Number: 31072

**COA Type**

**Description**

	<p>Based on the information presented, 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 if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.</p> <p>This no further action determination is limited to environmental remediation. Operator is required to comply with ECMC 1100 Series Rules for Flowline Regulations for all Flowline Abandonment activities and ECMC 400 Series Rules for Wellhead Plugging and Abandonment.</p> <p>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.</p>
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1 COA

**Attachment Check 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.

<b>Att Doc Num</b>	<b>Name</b>
403669416	FORM 27-SUPPLEMENTAL-SUBMITTED
403675970	SITE MAP
403675971	PHOTO DOCUMENTATION
403675972	OTHER
403675973	ANALYTICAL RESULTS
403675974	SOIL SAMPLE LOCATION MAP
403675975	SOIL SAMPLE LOCATION MAP
403675976	OTHER
403675977	ANALYTICAL RESULTS

Total Attach: 9 Files

**General Comments**

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)