

# State of Colorado Oil and Gas Conservation Commission

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Report taken by:

Candice (Nikki) Graber

## 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 COGCC 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>		Phone: <u>(720) 929-4306</u>
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80217-3779</u>
Contact Person: <u>Erik Mickelson</u>	Email: <u>Erik_Mickelson@oxy.com</u>	Mobile: <u>( )</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 16133 Initial Form 27 Document #: 402534540

#### 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>336147</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>CHAMPLIN 86 AMOCO 0-61N68W 4NESW</u>		Latitude: <u>40.077742</u>	Longitude: <u>-105.011903</u>
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESW</u>	Sec: <u>4</u>	Twp: <u>1N</u>	Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

#### SITE CONDITIONS

General soil type - USCS Classifications CL 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? No

## Other Potential Receptors within 1/4 mile

There are four groundwater wells located within approximately 0.25 miles of the site. The depth to groundwater is unknown. The Cottonwood Extension Ditch is located approximately 0.24 miles west of the site and the Community Ditch is located approximately 0.30 miles east of the site. Buildings are located approximately 4,058 feet north-northeast, 3,816 feet east-northeast, 1,737 feet south, and 1,746 feet west of the facility.

## 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) Thermogenic Gas

### DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	See attached data.	Inspection, Soil/Soil Vapor Sampling, 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.

On October 27, 2020, ERO notified Kerr-McGee Oil and Gas Onshore, LP (Kerr-McGee) that methane was detected in the subsurface in the vicinity of the Champlin 86 Amoco 0-61N68W/4NESW pad. During a subsequent assessment completed by Kerr-McGee, methane was detected in the shallow soil within a limited area on the Champlin 86 Amoco 0-61N68W/4NESW pad. The volume of the methane release is unknown.

### 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 ):

#### Proposed Groundwater Sampling

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

#### 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 ):

Remediation via soil vapor extraction (SVE) is ongoing. On October 18, 2022, after 8 weeks of rebound post-SVE system shutdown, Ensolum, LLC (Ensolum) was on-site to screen and sample all vapor wells using IsoTubes™ and an IsoTube sampling manifold in conjunction with the pump on a Landtec GEM™5000 (GEM). Samples collected from both shallow and deep intervals of wells PR01 through PR12 were submitted to Isotech Laboratories (Isotech) for gas composition analysis. During the field screening event, trace methane was recorded by the GEM at the shallow and deep intervals of well PR05. The SVE system was restarted on October 18, 2022, following the completion of the sampling event. Please refer to the Fourth Quarter Summary attachment for more details.

## SITE INVESTIGATION REPORT

## **SAMPLE SUMMARY**

### **Soil**

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

### **NA / ND**

Highest concentration of TPH (mg/kg)           
Highest concentration of SAR           
BTEX > 915-1           
Vertical Extent > 915-1 (in feet)         

### **Groundwater**

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? No  
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?

☐ 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?

Laboratory analytical results from the October sampling event indicated that trace levels of methane, ranging from 0.0002% to 0.0760%, were detected in fourteen of the samples (shallow-interval and deep-interval samples collected from PR01, PR04, PR05, PR08, PR10, PR11, and PR12) versus nineteen detections, ranging from 0.0002% to 0.0909%, during the June 2022 sampling event. Thermogenic gases in the C2 to C5 range were not detected in any of the samples during the October 2022 event versus four detections during the June 2022 event.

The SVE system will be operated for approximately 800 hours prior to being shut down for an 8-week rebound period. Another screening and sampling event will be performed following the rebound period and results will be submitted in a subsequent Form 27 supplemental report. If no thermogenic gases are detected during the next sampling event, the SVE system will be left off and periodic sampling will be performed to confirm no thermogenic gases return.

Tabulated field data and the current reporting period laboratory analytical results are included as Tables 1 and 2, respectively. Historical laboratory analytical results are included as Table 3.

## **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.

Remediation via SVE is ongoing. On October 18, 2022, after 8 weeks of rebound post-SVE system shutdown, Ensolum was on-site to screen and sample all vapor wells using IsoTubes™ and an IsoTube sampling manifold in conjunction with the pump on a Landtec GEM. Samples collected from both shallow and deep intervals of wells PR01 through PR12 were submitted to Isotech for gas composition analysis. During the field screening event, trace methane was recorded by the GEM at the shallow and deep intervals of well PR05. The SVE system was restarted on October 18, 2022, following the completion of the sampling event. Please refer to the Fourth Quarter Summary attachment for more details.

## **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 analytical results from the October sampling event indicated that trace levels of methane, ranging from 0.0002% to 0.0760%, were detected in fourteen of the samples (shallow-interval and deep-interval samples collected from PR01, PR04, PR05, PR08, PR10, PR11, and PR12) versus nineteen detections, ranging from 0.0002% to 0.0909%, during the June 2022 sampling event. Thermogenic gases in the C2 to C5 range were not detected in any of the samples during the October 2022 event versus four detections during the June 2022 event.

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Soil Remediation Summary

☒ In Situ

☐ Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

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

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

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

\_\_\_\_\_ Other \_\_\_\_\_

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

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

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

\_\_\_\_\_ 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

#### ☐ 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 Remediation Progress Update

### 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: \$ 40000

### 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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC 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 COGCC 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 COGCC 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. 10/27/2020

Actual Spill or Release date, or date of discovery. 10/27/2020

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/27/2020

Proposed site investigation commencement. 10/28/2020

Proposed completion of site investigation. 12/16/2020

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/24/2021

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: Erik Mickelson

Title: Environmental Lead

Submit Date: 12/12/2022

Email: Erik\_Mickelson@oxy.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Candice (Nikki) Graber

Date: 03/13/2023

Remediation Project Number: 16133

**COA Type****Description**

0 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.

**Att Doc Num****Name**

403248262	FORM 27-SUPPLEMENTAL-SUBMITTED
403248309	ANALYTICAL RESULTS
403248312	SITE MAP
403257414	REMEDATION PROGRESS REPORT

Total Attach: 4 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)