

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

401852957

Receive Date:

Report taken by:

## Site Investigation and Remediation Workplan (Initial 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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

### OPERATOR INFORMATION

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP	Operator No: 47120	Phone Numbers Phone: (970) 515-1698 Mobile: ( )
Address: P O BOX 173779		
City: DENVER	State: CO Zip: 80217-3779	
Contact Person: Greg Hamilton	Email: Gregory.Hamilton@anadarko.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: Initial Form 27 Document #: 401852957

#### PURPOSE INFORMATION

- |  |  |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water                   |
| <input checked="" type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure                  | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation                            | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project                                  |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste                      | <input type="checkbox"/> Rule 906.c.: Director request   |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other   |

#### SITE INFORMATION

Y Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: LOCATION	Facility ID: 305399	API #:	County Name: WELD
Facility Name: AMATO-61N66W 1SENE		Latitude: 40.081560	Longitude: -104.728523
		** correct Lat/Long if needed: Latitude: 40.080588	Longitude: -104.728091
QtrQtr: SENW	Sec: 1	Twp: 1N	Range: 66W Meridian: 6 Sensitive Area? Yes
Facility Type: LOCATION	Facility ID: 318659	API #:	County Name: WELD
Facility Name: STATE OF COLORADO AL-61N68W 16NWNE		Latitude: 40.055690	Longitude: -105.005150
		** correct Lat/Long if needed: Latitude: 40.057000	Longitude: -105.002749
QtrQtr: NWNE	Sec: 16	Twp: 1N	Range: 68W Meridian: 6 Sensitive Area? Yes
Facility Type: LOCATION	Facility ID: 319504	API #:	County Name: WELD
Facility Name: PAUL JACOBUCCI G.U. TRUE-61N67W 30NESE		Latitude: 40.019300	Longitude: -104.927320
		** correct Lat/Long if needed: Latitude: 40.019622	Longitude: -104.924150
QtrQtr: NESE	Sec: 30	Twp: 1N	Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION Facility ID: 327328 API #: \_\_\_\_\_ County Name: WELD  
Facility Name: UPRR 43 PAN AM UNIT Y-61N68W Latitude: 40.025110 Longitude: -104.957870  
25SWNW  
\*\* correct Lat/Long if needed: Latitude: 40.025540 Longitude: -104.958883  
QtrQtr: SWNW Sec: 25 Twp: 1N Range: 68W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION Facility ID: 328935 API #: \_\_\_\_\_ County Name: WELD  
Facility Name: WATADA RED-61N66W 19NWSE Latitude: 40.033969 Longitude: -104.816050  
\*\* correct Lat/Long if needed: Latitude: 40.033510 Longitude: -104.815708  
QtrQtr: NWSE Sec: 19 Twp: 1N Range: 66W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION Facility ID: 330861 API #: \_\_\_\_\_ County Name: WELD  
Facility Name: JOHNSON-61N68W 24SENW Latitude: 40.038150 Longitude: -104.953560  
\*\* correct Lat/Long if needed: Latitude: 40.037703 Longitude: -104.954279  
QtrQtr: SENW Sec: 24 Twp: 1N Range: 68W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION Facility ID: 418016 API #: \_\_\_\_\_ County Name: WELD  
Facility Name: STONEBRAKER 25-12 Latitude: 40.068010 Longitude: -104.949690  
\*\* correct Lat/Long if needed: Latitude: 40.069629 Longitude: -104.947841  
QtrQtr: SWNE Sec: 12 Twp: 1N Range: 68W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Agriculture and  
Irrigation Canal

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**

NA

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

☐ E&P Waste

☐ Other E&P Waste

☒ Non-E&P Waste

☐ Produced Water

☐ Workover Fluids

No Waste Generated

☐ 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	SOILS	See Sump Closure Reports	See Sump Closure Reports

## INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

The objective of the soil sampling was to determine if petroleum hydrocarbon impacts to the subsurface media resulted from operating a produced water sump at the site.

## 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 ):

Soil sampling was conducted to determine if petroleum hydrocarbon impacts to subsurface soil resulted from operating a produced water sump at the respective sites. For each sump closure site, one or more soil samples were collected for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX), total petroleum hydrocarbons (TPH), pH, and specific conductivity (EC). The soil sampling activities, laboratory analytical results, and conclusions will be summarized in a Sump Closure Report for each site.

### 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 ):

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 7

Number of soil samples exceeding 910-1 0

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) 378

NA Highest concentration of SAR

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

### 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 910-1

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 910-1

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?

# REMEDIAL ACTION PLAN

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Soil samples were collected from the sump excavations for laboratory analysis of TPH, BTEX, pH, and EC. Soil samples were in full compliance with COGCC Table 910-1 allowable levels.

## 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.

Soil impacts were not encountered above COGCC Table 910-1 allowable levels. No further action is required for these sites.

## Soil Remediation Summary

### ☐ In Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

### ☐ Ex Situ

\_\_\_\_\_ 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

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
No \_\_\_\_\_ Chemical oxidation  
No \_\_\_\_\_ Air sparge / Soil vapor extraction  
No \_\_\_\_\_ Natural Attenuation  
No \_\_\_\_\_ 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.

NA

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Initial Report

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Produced water vessel closure

### 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:

## 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.

Sump closure sites have been reclaimed (interim) or are in the process of being reclaimed (final) in accordance with COGCC 1000 Series Reclamation Rules.

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 approve the seed mix?

If NO, does the seed mix comply with local soil conservation district recommendations?

## IMPLEMENTATION SCHEDULE

### PRIOR DATES

Date of Surface Owner notification/consultation, if required.

Actual Spill or Release date, if known.

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/25/2018

Date of commencement of Site Investigation. 06/25/2018

Date of completion of Site Investigation. 09/19/2018

### REMEDIAL ACTION DATES

Date of commencement of Remediation.

Date of completion of Remediation.

### SITE RECLAMATION DATES

Date of commencement of Reclamation.

Date of completion of Reclamation.

**OPERATOR COMMENT**

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I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: ` Greg Hamilton

Title: Sr. Staff HSE Rep.

Submit Date: `

Email: Gregory.Hamilton@anadarko.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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: \_\_\_\_\_

**COA Type****Description**

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**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**

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Total Attach: 0 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)