

# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

401804747

Receive Date:

10/29/2018

Report taken by:

PETER GINTAUTAS

## 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.

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

### 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>(970) 515-1698</u>
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80217-3779</u>
Contact Person: <u>Greg Hamilton</u>	Email: <u>Gregory.Hamilton@anadarko.com</u>	Mobile: <u>( )</u>

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 11963 Initial Form 27 Document #: 401778334

#### 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 checked="" 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: <u>LOCATION</u>	Facility ID: <u>302688</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>LUCERO X-62N65W 20NWNW</u>		Latitude: <u>40.129782</u>	Longitude: <u>-104.695725</u>
		** correct Lat/Long if needed: Latitude: <u>40.129837</u>	Longitude: <u>-104.697116</u>
QtrQtr: <u>NWNW</u>	Sec: <u>20</u>	Twp: <u>2N</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>LOCATION</u>	Facility ID: <u>305202</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>WESTERN-64N66W 31SENE</u>		Latitude: <u>40.271490</u>	Longitude: <u>-104.815390</u>
		** correct Lat/Long if needed: Latitude: <u>40.269870</u>	Longitude: <u>-104.811339</u>
QtrQtr: <u>SENE</u>	Sec: <u>31</u>	Twp: <u>4N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>LOCATION</u>	Facility ID: <u>311475</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>SPECTRUM-62N67W 19SWSW</u>		Latitude: <u>40.119560</u>	Longitude: <u>-104.937900</u>
		** correct Lat/Long if needed: Latitude: <u>40.122085</u>	Longitude: <u>-104.938963</u>
QtrQtr: <u>SWSW</u>	Sec: <u>19</u>	Twp: <u>2N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: LOCATION		Facility ID: 319178		API #:		County Name: WELD	
Facility Name: CHAMBERLIN-64N67W 4SESE		Latitude: 40.336450		Longitude: -104.888980			
		** correct Lat/Long if needed: Latitude: 40.334650		Longitude: -104.891896			
QtrQtr: SESE	Sec: 4	Twp: 4N	Range: 67W	Meridian: 6	Sensitive Area? Yes		

Facility Type: LOCATION		Facility ID: 319371		API #:		County Name: WELD	
Facility Name: SHAFER USX W-62N66W 25NWNW		Latitude: 40.113710		Longitude: -104.731269			
		** correct Lat/Long if needed: Latitude: 40.113764		Longitude: -104.732122			
QtrQtr: NWNW	Sec: 25	Twp: 2N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

Facility Type: LOCATION		Facility ID: 328299		API #:		County Name: WELD	
Facility Name: HSR-WOLF-63N66W 15NWSE		Latitude: 40.222710		Longitude: -104.760490			
		** correct Lat/Long if needed: Latitude: 40.221473		Longitude: -104.754074			
QtrQtr: NWSE	Sec: 15	Twp: 3N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

Facility Type: LOCATION		Facility ID: 330764		API #:		County Name: WELD	
Facility Name: DECHANT STATE V-62N67W 16NWNW		Latitude: 40.143956		Longitude: -104.902348			
		** correct Lat/Long if needed: Latitude: 40.143713		Longitude: -104.901871			
QtrQtr: NWNW	Sec: 16	Twp: 2N	Range: 67W	Meridian: 6	Sensitive Area? Yes		

Facility Type: LOCATION		Facility ID: 331438		API #:		County Name: WELD	
Facility Name: POGG-63N67W 13SENE		Latitude: 40.225840		Longitude: -104.831770			
		** correct Lat/Long if needed: Latitude: 40.225116		Longitude: -104.834880			
QtrQtr: SENE	Sec: 13	Twp: 3N	Range: 67W	Meridian: 6	Sensitive Area? Yes		

Facility Type: LOCATION		Facility ID: 331770		API #:		County Name: WELD	
Facility Name: CARLSON-62N65W 26NWSE		Latitude: 40.108070		Longitude: -104.629420			
		** correct Lat/Long if needed: Latitude: 40.102369		Longitude: -104.622217			
QtrQtr: NWSE	Sec: 26	Twp: 2N	Range: 65W	Meridian: 6	Sensitive Area? Yes		

Facility Type: LOCATION		Facility ID: 422691		API #:		County Name: WELD	
Facility Name: WARNER W 13-11 TANK		Latitude: 40.134430		Longitude: -104.730590			
		** correct Lat/Long if needed: Latitude: 40.134431		Longitude: -104.730415			
QtrQtr: SWSW	Sec: 13	Twp: 2N	Range: 66W	Meridian: 6	Sensitive Area? Yes		

### **SITE CONDITIONS**

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use Agriculture

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	Soil sample results provided

### 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 are summarized in the attached Sump Closure Reports.

#### 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 10

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) 0.349

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

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.

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. The Sump Closure Reports are attached.

### **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

## REMEDATION PROGRESS UPDATE

### PERIODIC REPORTING

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

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

☒ Other Produced water vessel closure; NFA Status Request

### 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: \_\_\_\_\_

## REMEDATION COMPLETION REPORT

### REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

Do all soils meet Table 910-1 standards? No

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? Yes

Does Groundwater meet Table 910-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

## 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). 03/09/2018

Date of commencement of Site Investigation. 03/09/2018

Date of completion of Site Investigation. 06/21/2018

### **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: 10/29/2018

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: PETER GINTAUTAS

Date: 10/29/2018

Remediation Project Number: 11963

**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**

401804747	FORM 27-SUPPLEMENTAL-SUBMITTED
401804859	SITE INVESTIGATION REPORT
401804870	SITE INVESTIGATION REPORT
401804875	SITE INVESTIGATION REPORT
401804877	SITE INVESTIGATION REPORT
401804881	SITE INVESTIGATION REPORT
401804883	SITE INVESTIGATION REPORT
401804886	SITE INVESTIGATION REPORT
401804888	SITE INVESTIGATION REPORT
401804890	SITE INVESTIGATION REPORT
401804893	SITE INVESTIGATION REPORT

Total Attach: 11 Files

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

	Based on the information presented, it appears that no further action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if ground water is found to be impacted, then further investigation and/or further remediation activities may be required. In addition, the surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules.	10/29/2018
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Total: 1 comment(s)