

State of Colorado  
Oil and Gas Conservation Commission

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401714663  
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08/03/2018

Report taken by:  
PETER GINTAUTAS

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 INFORMATON

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) 336-3500</u>
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80217-3779</u>
Contact Person: <u>Gregory Hamilton</u>	Email: <u>Gregory.Hamilton@anadarko.com</u>	Mobile: <u>(970) 515-1698</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11647 Initial Form 27 Document #: 401714663

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 checked="" 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

N Multiple Facilites ( in accordance with Rule 909.c. )

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>455941</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>SPILL/RELEASE POINT</u>	Latitude: <u>40.107888</u>	Longitude: <u>-104.925626</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>30</u>	Twp: <u>2N</u>	Range: <u>67W</u>
Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>		

SITE CONDITIONS

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use Crop Land  
 Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? No  
 Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

The nearest occupied building is located approximately 615 feet north of the release location.

# 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	85' (E-W) x 45' (N-S) x 11' bgs	Excavation, soil sampling, and laboratory analysis

## 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 July 9, 2018, historical impacts were discovered during abandonment activities at the Rocky Mountain Fuel CO E1/Frederick 15-30/Frederick 16-30/Russel Tom C True 1 production facility. The facility was shut-in, affected infrastructure removed, and excavation activities were initiated. Groundwater was not encountered in the excavation. The COGCC has issued Spill/Release Point ID 455941 for this release. A partially-buried produced water vessel was removed during excavation activities.

## 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 samples were collected from the sidewalls and base of the excavation area at depths ranging from 5 to 11 feet below ground surface (bgs). The soil samples were submitted to Origins Laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), total petroleum hydrocarbon (TPH) - gasoline range organics (GRO) by USEPA Method 8260C, TPH diesel and oil range organics (DRO and ORO) by USEPA Method 8015, electrical conductivity (EC), and pH. Laboratory analytical results indicated that constituent concentrations in the soil samples collected from the final lateral and vertical extents of the excavation area were in full compliance with State standards. Soil sample locations are illustrated on Figure 1. Soil analytical results are summarized in Table 1. The laboratory analytical reports are provided as Attachment A.

### 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 ):

A partially-buried produced water vessel was removed during excavation activities.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 18  
Number of soil samples exceeding 910-1 2  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 2130

### NA / ND

-- 4068 Highest concentration of TPH (mg/kg)  
NA            Highest concentration of SAR  
BTEX > 910-1 Yes  
Vertical Extent > 910-1 (in feet) 11

### 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 0  
Number of groundwater samples exceeding 910-1 0

NA            Highest concentration of Benzene (µg/l)  
NA            Highest concentration of Toluene (µg/l)  
NA            Highest concentration of Ethylbenzene (µg/l)  
NA            Highest concentration of Xylene (µg/l)  
NA            Highest concentration of Methane (mg/l)

### Surface Water

0 Number of surface water samples collected  
0 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.

Between July 9 and 12, 2018, approximately 600 cubic yards of impacted material were excavated and transported to the Front Range Landfill in Erie, Colorado for disposal. A partially-buried produced water vessel was removed during excavation activities.

## 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 impacted soils in the excavation area have been remediated to be in full compliance with State standards. Groundwater was not encountered during excavation activities. Based on the analytical data presented herein, remediation is complete at this site. Upon COGCC approval of the Initial Form 27, Kerr-McGee will submit a Supplemental Form 27 request for a No Further Action (NFA) determination for this release.

## Soil Remediation Summary

In Situ

Ex Situ

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

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

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

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 600

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

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

**Frequency:**  Quarterly  Semi-Annually  Annually  Other One-time reporting

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

Other Sump closure notification

## 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 600

E&P waste (solid) description Hydrocarbon impacted soil

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: Front Range Landfill - Erie, Colorado

Volume of E&P Waste (liquid) in barrels 0

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.

The site has been restored to its pre-release grade. Kerr-McGee will consult with the surface owner to determine reclamation specifics to properly conduct reclamation in accordance with COGCC 1000 Series 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. 07/09/2018

Actual Spill or Release date, if known. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/09/2018

Date of commencement of Site Investigation. 07/09/2018

Date of completion of Site Investigation. 07/12/2018

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/09/2018

Date of completion of Remediation. 07/12/2018

### 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: Gregory Hamilton \_\_\_\_\_

Title: Sr. Staff HSE Rep \_\_\_\_\_

Submit Date: 08/03/2018 \_\_\_\_\_

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: 08/03/2018 \_\_\_\_\_

Remediation Project Number: 11647 \_\_\_\_\_

**COA Type****Description**

	<p>per rule 907.b          Provide documentation of transport of exploration and production wastes to offsite facilities to include the following information:          A. The date of the transport;          B. The identity of the waste generator;          C. The identity of the waste transporter;          D. The location of the waste pickup site;          E. The type and volume of waste; and          F. The name and location of the treatment or disposal site.</p>
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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**

401714663	FORM 27-INITIAL-SUBMITTED
401714889	ANALYTICAL RESULTS
401714893	ANALYTICAL RESULTS
401721460	SOIL SAMPLE LOCATION MAP

Total Attach: 4 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)