

State of Colorado  
Oil and Gas Conservation Commission

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Report taken by:  
Kari Oakman

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> Phone: <u>(970) 336-3500</u> Mobile: <u>( )</u>
Address: <u>P O BOX 173779</u>		
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80217-3779</u>		
Contact Person: <u>Phil Hamlin</u> Email: <u>Phil_Hamlin@oxy.com</u>		

PROJECT, PURPOSE & SITE INFORMATION

<b>PROJECT INFORMATION</b>	
Remediation Project #: <u>4121</u>	Initial Form 27 Document #: <u>1981125</u>
<b>PURPOSE INFORMATION</b>	
<input type="checkbox"/> 901.e. Sensitive Area Determination	<input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
<input 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 _____
<b>SITE INFORMATION</b> <u>N</u> Multiple Facilities ( in accordance with Rule 909.c. )	
Facility Type: <u>LOCATION</u>	Facility ID: <u>317685</u> API #: _____ County Name: <u>WELD</u>
Facility Name: <u>UPRR 43 PAN AM B-61N68W 3NESW</u>	Latitude: <u>40.078437</u> Longitude: <u>-104.991876</u>
	** correct Lat/Long if needed: Latitude: <u>40.080505</u> Longitude: <u>-104.989347</u>
QtrQtr: <u>NESW</u> Sec: <u>3</u> Twp: <u>1N</u> Range: <u>68W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>	
<b>SITE CONDITIONS</b>	
General soil type - USCS Classifications <u>CL</u>	Most Sensitive Adjacent Land Use <u>Agriculture and Irrigation Ditch</u>
Is domestic water well within 1/4 mile? <u>No</u>	Is surface water within 1/4 mile? <u>Yes</u>
Is groundwater less than 20 feet below ground surface? <u>Yes</u>	
<b>Other Potential Receptors within 1/4 mile</b>	
Surface water (irrigation ditch) approximately 50 feet (ft) northeast, building approximately 330 ft north. Depth to groundwater has not been determined.	

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
Yes	SOILS	190' N-S x 160' E-W x 12 ft bgs	Soil Samples/Lab 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.

Between April 18, 2003 and June 6, 2006, six reportable releases of produced water occurred at the UPRR 43 Pan Am B 1 Salt Water Disposal site. In each instance, Kerr-McGee reported the release to the Colorado Oil and Gas Conservation Commission (COGCC) via a Form 19 submittal. All the releases were at the surface and contained within the tank battery berm. A total of 484 barrels (bbls) of produced water were released, of which 417 bbls were recovered using a vacuum truck. The COGCC's non-sensitive area standard was applied based on a previous excavation at the site that identified the presence of competent claystone bedrock at 18-feet below ground surface (bgs) and the absence of shallow groundwater to that depth. Based on the site's non-sensitive area status, excavation of impacted soil was not conducted following these produced water releases. Each of these six spills was closed by the COGCC following receipt of the corresponding Form 19.

The produced water release addressed by the January 2008 Form 27 occurred at the site on July 21, 2007, when a loose fitting in the control room released 15 bbls of produced water within the tank battery berm. The petroleum hydrocarbon impacted soil was excavated.

Since the July 2007 release, there have been three subsequent releases at the site. Twelve bbls of produced water were released inside the tank berm on January 1, 2009, 47 bbls of oil were released inside the tank berm on July 15, 2009, and, 22 bbls of produced water were released inside the tank berm on November 23, 2010. In each instance, produced water was recovered at the surface and soil exceeding the COGCC allowable levels for total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and/or specific conductance (EC) was left in place at the conclusion of the limited excavation and assessment activities with the understanding that additional soil removal would be completed upon decommissioning of the facility.

## 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 ):

Please refer to the Update Report dated 1/17/2013 regarding the 2011 site assessment, 2012 excavation, and 2012 post-excavation site assessment. Based on assessment activities, approximately 3,350 CY of impacted soil remains in place within the assessment area due to the presence of 3rd party lines.

An additional site assessment will be conducted to assess the impacted soil in place. Because the former excavation had a clean base at 10 ft bgs, the new assessment borings will be advanced to a depth of 10 ft bgs. The soil borings will be continuously field screened for total volatile organic compounds using a photoionization detector (PID). Soil samples will be collected from the interval with the highest PID reading and at the total depth of each boring for laboratory analysis of TPH, BTEX, naphthalene, pH, EC, and sodium adsorption ratio (SAR). In addition, the SAR exceedance at sample location S04@2.5' will be reassessed. The proposed soil boring locations are depicted on Figure 1.

### 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 83

Number of soil samples exceeding 910-1 35

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 22300

### NA / ND

--            Highest concentration of TPH (mg/kg) 10500

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           

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?

Additional soil borings will be advanced at the site to assess the impacted soil left in place at this location.

# 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.

Approximately 5,700 cubic yards of petroleum hydrocarbon impacted soil were removed from the 2012 excavation and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado, for recycling. Groundwater was not encountered in the excavations. Based on the April 2012 subsurface assessment activities, the estimated volume of impacted soil left in place with TPH concentrations exceeding COGCC allowable levels was approximately 3,350 cubic yards. The excavation locations and estimated extent of impacted soil left in place is depicted on the Site Map attached as Figure 1.

## 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.

Petroleum hydrocarbon impacted soil was excavated in January and February 2012.

## Soil Remediation Summary

In Situ

Ex Situ

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

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

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

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 5700

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

\_\_\_\_\_ Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_ 149007

\_\_\_\_\_ 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 \_\_\_\_\_

Report Type:  Groundwater Monitoring  Land Treatment Progress Report  O&M Report  
 Other Soil Assessment and Remediation \_\_\_\_\_

## 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:

The petroleum hydrocarbon impacted soil was transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado, for recycling.

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 5700

E&P waste (solid) description \_\_\_\_\_ Petroleum hydrocarbon impacted soil

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_ 149007

Non-COGCC Disposal Facility: \_\_\_\_\_

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

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 \_\_\_\_\_

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? No \_\_\_\_\_

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.

The Kerr-McGee tank battery was decommissioned. 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 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. 07/21/2007

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/21/2007

Date of commencement of Site Investigation. 07/21/2007

Date of completion of Site Investigation. 02/24/2012

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/21/2007

Date of completion of Remediation. \_\_\_\_\_

### SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

### OPERATOR COMMENT

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

Signed: Phil Hamlin

Title: Senior Environmental Rep.

Submit Date: 05/13/2020

Email: Phil\_Hamlin@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: Kari Oakman

Date: 05/14/2020

Remediation Project Number: 4121

### COA Type

### Description

	Operator shall submit a Form 27 Supplemental Report within 45 days of performing this environmental investigation.
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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

402388069	FORM 27-SUPPLEMENTAL-SUBMITTED
402397028	SITE MAP

Total Attach: 2 Files

### General Comments

#### User Group

#### Comment

#### Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)