

State of Colorado Oil and Gas Conservation Commission

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Report taken by:

CHRIS CANFIELD

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: KERR MCGEE OIL & GAS ONSHORE LP	Operator No: 47120	Phone Numbers Phone: (970) 336-3500 Mobile: (970) 515-1698
Address: P O BOX 173779		
City: DENVER State: CO Zip: 80217-3779		
Contact Person: Gregory Hamilton	Email: Gregory_Hamilton@oxy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 20108 Initial Form 27 Document #: 402808670

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

Yes Multiple Facilities

Facility Type: WELL	Facility ID: _____	API #: 123-26722	County Name: WELD
Facility Name: HAUCK 7-29	Latitude: 40.111144	Longitude: -105.024892	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNE	Sec: 29	Twp: 2N	Range: 68W Meridian: 6 Sensitive Area? Yes
Facility Type: WELL	Facility ID: _____	API #: 123-26724	County Name: WELD
Facility Name: HAUCK 17-29	Latitude: 40.111092	Longitude: -105.024817	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWNE	Sec: 29	Twp: 2N	Range: 68W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL		Facility ID: _____		API #: 123-26723		County Name: WELD	
Facility Name: HAUCK 24-29				Latitude: 40.111031		Longitude: -105.024750	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____							
QtrQtr: SWNE	Sec: 29	Twp: 2N	Range: 68W	Meridian: 6	Sensitive Area? Yes		

Facility Type: SPILL OR RELEASE		Facility ID: 481153		API #: _____		County Name: WELD	
Facility Name: Hauck 7, 17-29 Wellhead Release				Latitude: 40.111164		Longitude: -105.024902	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____							
QtrQtr: SWNE	Sec: 29	Twp: 2N	Range: 68W	Meridian: 6	Sensitive Area? Yes		

SITE CONDITIONS

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

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

Multiple buildings and livestock holding pens are located within ¼ mile of the wellhead.
 The nearest building is located approximately 460 feet northwest of the wellhead.
 The nearest domestic water well is located approximately 90 feet to the north of the wellhead.
 Surface water is located approximately 130 feet to the east of the wellhead.
 A wetland is located approximately 640 feet northwest of the wellhead.
 The wellhead is located within a designated high priority habitat.

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
No	GROUNDWATER	No impacts encountered	Groundwater samples/laboratory analytical results
Yes	SOILS	18' (E-W) x 12' (N-S) x 9' bgs	Inspection/soil samples/laboratory 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.

Wellhead cut and cap operations were completed at the Hauck 7-29, Hauck 17-29, and Hauck 24-29 wellheads on October 12, 2021. Groundwater was encountered in the cut and cap excavations for the Hauck 7-29 and Hauck 17-29 wellheads at approximately 8.5 feet below ground surface (bgs). Visual inspection and field screening of soils around the wellheads and associated pumping equipment was conducted following cut and cap operations, and three (3) soil samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, and total petroleum hydrocarbons (TPH) - gasoline range organics (GRO: C6-C10) by United States Environmental Protection Agency (USEPA) Method 8260D, TPH - diesel range organics (DRO: C10-C28) and oil range organics (ORO: C28-C40) by USEPA Method 8015D, pH, specific conductance (EC), sodium adsorption ratio (SAR) by saturated paste method, and boron by hot water soluble extract method, to determine if a release occurred. Laboratory analytical results indicated that soil impacts due to SAR were present at the former Hauck 7-29 wellhead location, and soil impacts due to pH and EC were present at the Hauck 17-29 wellhead location. As such, a Form 19-Initial/Supplemental Spill/Release Report (COGCC Document No. 402852181) was submitted on October 26, 2021, and the COGCC issued Spill/Release Point ID 481153. The flowlines associated with these wellheads were partially removed on October 11 and 12, 2021. The remaining flowlines were abandoned in place and their status will be changed to out-of-service in accordance with Rule 1101.a.(3).A,B,&C. A topographic Site Location Map showing the geographic setting of the site location is provided as Figure 1. Soil and groundwater sample location and field screening data are presented in Table 1. The wellhead soil and groundwater sample and field screening locations are illustrated on Figures 2 through 4. The flowline field screening locations are illustrated on Figure 5.

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):

On October 12, 2021, 3 soil samples were collected from the bases of the cut and cap excavation areas, at a depth of approximately 7 feet bgs. Analytical results indicated that SAR, pH, and EC impacts were present at the former Hauck 7-29 and Hauck 17-29 wellhead locations, and additional excavation activities were conducted where impacted soil remained. On November 3 through 30, 2021, additional confirmation soil samples were collected from the final excavation extents and submitted for laboratory analysis of SAR (Hauck 7-29) or pH and EC (Hauck 17-29). Analytical results indicate that constituent concentrations in the ten (10) confirmation soil samples collected from the final excavation extents were in compliance with COGCC Table 915-1 soil standards and/or within the range of site-specific background results. Soil analytical results are presented in Tables 2 and 3. 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):

Groundwater was encountered in the cut and cap excavations for the Hauck 7-29 and Hauck 17-29 wellheads at approximately 8.5 feet bgs. On November 4, 2021, two (2) groundwater samples were collected and submitted for laboratory analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4- and 1,3,5- trimethylbenzene (TMB), by USEPA Method 8260D. Analytical results indicated that constituent concentrations in the 2 groundwater samples were in compliance with COGCC Table 915-1 standards. The groundwater sample locations are illustrated on Figures 2 and 3, and groundwater analytical results are presented in Table 4. Groundwater was not encountered during partial flowline removal operations.

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):

On October 11 and 12, 2021, visual inspection and field screening of soils was conducted at 12 sidewall locations within the wellhead cut and cap excavation areas, 12 locations at the ground surface adjacent to the cut and cap excavations, and 9 pothole locations during flowline removal activities. Based on the inspection and screening results, hydrocarbon-impacted soil was not observed at the soil screening locations. As a result, no soil samples were submitted for laboratory analysis from these areas in accordance with the COGCC Operator Guidance for Oil & Gas Facility Closure document. Soil and groundwater sample location and field screening data are presented in Table 1. Soil and groundwater analytical results are presented in Tables 2 through 4. The soil and groundwater sample and field screening locations are illustrated on Figures 2 through 5. The laboratory analytical reports are provided as Attachment A. The field notes and a photographic log are provided as Attachment B.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 15

Number of soil samples exceeding 915-1 4

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

Approximate areal extent (square feet) 215

Groundwater

Number of groundwater samples collected 2

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 8'

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

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.

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 9.88

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 9

ND Highest concentration of Benzene (µg/l)

ND Highest concentration of Toluene (µg/l)

ND Highest concentration of Ethylbenzene (µg/l)

ND Highest concentration of Xylene (µg/l)

NA Highest concentration of Methane (mg/l)

OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

☒ Were background samples collected as part of this site investigation?

Background soil samples WH-BG01@3.5' - WH-BG03@3.5' and WH-BG01@7' - WH-BG03@7' were collected from native material adjacent to the wellhead cut and cap excavations. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters using standard methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil samples are presented in Table 3.

☐ 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.

Between October 12 and November 30, 2021, approximately 170 cubic yards of impacted soil were excavated and transported to the Front Range Landfill in Erie, Colorado for disposal, and approximately 10 cubic yards of impacted soil were excavated and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for treatment. The excavation areas were subsequently backfilled and contoured to match pre-existing conditions.

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 Hauck 7-29 and Hauck 17-29 wellhead excavation areas have been remediated to be in compliance with the COGCC Table 915-1 standards and/or within the range of site-specific background results. Laboratory analytical results indicate that constituent concentrations in the 2 groundwater samples collected from the Hauck 7-29 and Hauck 17-29 wellhead cut and cap excavation areas were in compliance with the COGCC Table 915-1 standards. Based on the analytical data and soil screening data presented herein, assessment is complete at this site and no further activities are required. As such, Kerr-McGee is requesting a No Further Action (NFA) determination for this location.

Soil Remediation Summary

☐ In Situ

☐ Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ 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 Final Report

☐ 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 NFA Request

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:

Approximately 10 cubic yards of impacted soil were excavated and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado for treatment.

Volume of E&P Waste (solid) in cubic yards 180

E&P waste (solid) description Impacted soil

COGCC Disposal Facility ID #, if applicable: 149007

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:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

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

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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Does Groundwater meet Table 915-1 standards? Yes

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. 10/25/2021

Actual Spill or Release date, or date of discovery. 10/25/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/11/2021

Proposed site investigation commencement. 10/11/2021

Proposed completion of site investigation. 11/30/2021

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/12/2021

Proposed date of completion of Remediation. 11/30/2021

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

Laboratory data indicate that impacted soils in the Hauck 7-29 and Hauck 17-29 wellhead excavation areas have been remediated to be in compliance with the COGCCC Table 915-1 standards and/or within the range of site-specific background results. As such, Kerr-McGee is requesting an NFA determination for this location, based on the analytical and soil screening data provided herein.

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

Signed: Gregory Hamilton

Title: Environmental Consultant

Submit Date: 01/20/2022

Email: Gregory_Hamilton@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: CHRIS CANFIELD

Date: 01/21/2022

Remediation Project Number: 20108

Condition of Approval**COA Type****Description**

	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 groundwater is found to be impacted, then further investigation and/or remediation activities may be required.
	The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.
2 COAs	

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**

402929270	FORM 27-SUPPLEMENTAL-SUBMITTED
402929384	SITE MAP
402929385	PHOTO DOCUMENTATION
402929386	SOIL SAMPLE LOCATION MAP
402929388	ANALYTICAL RESULTS
402929389	ANALYTICAL RESULTS
402929390	SOIL SAMPLE LOCATION MAP
402929392	SOIL SAMPLE LOCATION MAP
402929393	SOIL SAMPLE LOCATION MAP

Total Attach: 9 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)