

State of Colorado Oil and Gas Conservation Commission

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Document Number:

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Receive Date:

Report taken by:

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 #: 25452 Initial Form 27 Document #: 403178821

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 #: 123-26878	County Name: WELD
Facility Name: I & J 7-6	Latitude: 40.082247	Longitude: -105.044392	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____			
QtrQtr: SWNE	Sec: 6	Twp: 1N	Range: 68W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL	Facility ID: _____	API #: 123-26883	County Name: WELD
Facility Name: BULTHAUP 21-6	Latitude: 40.082197	Longitude: -105.044514	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____			
QtrQtr: SWNE	Sec: 6	Twp: 1N	Range: 68W Meridian: 6 Sensitive Area? Yes

Facility Type: <u>SPILL OR RELEASE</u>		Facility ID: <u>483869</u>	API #: _____	County Name: <u>WELD</u>	
Facility Name: <u>I&J 7-6, Bulthaup 21-6 Flowline</u>			Latitude: <u>40.082257</u>	Longitude: <u>-105.041214</u>	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____					
QtrQtr: <u>SENE</u>	Sec: <u>6</u>	Twp: <u>1N</u>	Range: <u>68W</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? 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 1/4 mile of the wellheads.
 The nearest building is located approximately 680 feet northeast of the wellheads.
 The nearest domestic water well is located approximately 490 feet northwest of the wellheads.
 Surface water is located approximately 850 feet south of the wellheads.
 A wetland is located approximately 150 feet south of the wellheads and the flowlines pass through a mapped wetland.

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	8' (N-S) x 8' (E-W) x 8' 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 I&J 7-6 and Bulthaup 21-6 wellheads on December 2, 2022. Soil samples were collected from the base of the wellhead excavation areas and submitted for laboratory analysis. Analytical results indicated that pH was slightly elevated in soil at the former I&J 7-6 wellhead. The flowlines associated with these wellheads were removed on December 2, 2022 through January 5, 2023. Soil samples were collected from the locations where the flowline risers were disconnected at the wellheads and separator, and where the flowline changed direction, and submitted for laboratory analysis. Groundwater was encountered in two flowline removal potholes at approximately 4 feet below ground surface (bgs), and soil and groundwater samples were collected from pothole location 7,21-6-FL-B07@4' (highest PID). The soil samples were submitted for laboratory analysis of BTEX, TMB, naphthalene, TPH, pH, EC, SAR, and boron using standard methods. Laboratory analytical results for sample 7,21-6-FL-B07@4' indicated that impacted soil was present due to boron, SAR, and EC. As such, a Form 19-Initial/Supplemental Spill/Release Report (Document No.403287562) was submitted on February 10, 2022, and the COGCC issued Spill/Release Point ID 483869. The remaining analytical results for the soil samples collected during wellhead cut and cap and flowline removal operations were in compliance with COGCC standards and/or within the range of site-specific background levels. The portion of the flowlines between sample locations 1,27,17,7,21 6 FL B03@4' and 1,27,17,7,21 6 FL B17@4' was removed without additional potholing activities, as this section was installed within a buried protective sleeve through this area, and was therefore isolated from the surrounding material up to the time when it was removed. A topographic Site Location Map is provided as Figure 1. The soil and groundwater sample and field screening locations are illustrated on Figures 2 and 3.

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 January 26, 2023, excavation activities were conducted to address remaining inorganic soil impacts at the former flowline location (7,21-6-FL-B07@4'), and 5 confirmation soil samples were collected from the base and sidewalls of the final excavation extent, at depths of approximately 8 feet and 7 feet bgs, respectively. Based on the analytical results for sample 7,21-6-FL-B07@4', the confirmation soil samples were submitted for laboratory analysis of BTEX, naphthalene, 1,2,4- and 1,3,5-TMB, TPH, pH, boron, EC, and SAR. Analytical results indicate that constituent concentrations in the soil samples collected from the final flowline excavation extent were in compliance with the applicable COGCC Table 915-1 standards and/or within the range of site-specific background levels. The excavation soil sample locations are illustrated on Figure 4. Soil sample location and field screening data are presented in Table 1. Soil analytical results are summarized in Tables 2 and 3.

Proposed Groundwater Sampling

☒ Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Groundwater was encountered in two flowline removal potholes at approximately 4 feet bgs. On January 5, 2023, groundwater sample 7,21-6-FL-GW01 was collected from flowline removal pothole 7,21-6-FL-B07@4' (highest PID). The groundwater sample was submitted for laboratory analysis of BTEX, naphthalene, 1,2,4- and 1,3,5-TMB by USEPA Method 8260D. Analytical results indicated that constituent concentrations in groundwater sample 7,21-6-FL-GW01 were in compliance with COGCC Table 915-1 standards. The groundwater sample location is illustrated on Figures 3 and 4. The groundwater analytical results are summarized in Table 4.

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 December 2, 2022 through January 5, 2023, soil screening was conducted at 8 sidewall locations within the cut and cap excavation areas, 4 locations at the ground surface adjacent to the 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, and no soil samples were submitted for laboratory analysis in accordance with COGCC Operator Guidance. On December 7, 2022, a soil gas survey was conducted at 9 soil vapor points (SVP01 - SVP05, SVP07 - SVP10) installed adjacent to the former wellhead location following cut and cap operations. GEM 5000 field readings were non-detect for methane at all 5 soil vapor points. The SVP locations are illustrated on Figure 2 and SVP screening results are summarized in Table 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 13

Number of soil samples exceeding 915-1 2

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

Approximate areal extent (square feet) 64

Groundwater

Number of groundwater samples collected 1

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 4

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 7.11

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 8

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 7,21-6-WH-BG01@3' - 7,21-6-WH-BG04@3', and 7,21-6-WH-BG01@6' - 7,21-6-WH-BG04@6' 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 COGCC-approved 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.

On January 26, 2023, approximately 40 cubic yards of impacted material were excavated and transported to the Front Range Landfill in Erie, Colorado for disposal. The excavation area was subsequently backfilled and re-graded to match pre-existing site 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 flowline excavation area have been remediated to be in compliance with the COGCC Table 915-1 standards and/or within the range of site-specific background levels. Laboratory results indicate that constituent concentrations in the remaining soil samples collected during wellhead cut and cap and flowline removal activities were in compliance with applicable COGCC Table 915-1 soil standards and/or within the range of site-specific background levels or acceptable soil variability for pH when compared to background results. Laboratory analytical results indicate that constituent concentrations in the groundwater sample collected during flowline removal operations (7,21-6-FL-GW01) were in compliance with the COGCC Table 915-1 groundwater standards. Based on the analytical 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

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

☒ Ex Situ

Yes _____ Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____ 40

Name of Licensed Disposal Facility or COGCC Facility ID # _____

No _____ 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

☐ 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

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

KMOG has sufficient insurance and bonding to fully address the anticipated costs of Remediation, including the remaining estimated costs for this project. KMOG currently has over 40 million in bonds with the Colorado Oil and Gas Conservation Commission. The cost for remediation is a preliminary estimate only, costs may change upwards or downward based on site-specific information. KMOG makes no representation or guarantees as to the accuracy of the preliminary estimate.

Operator anticipates the remaining cost for this project to be: \$ 0

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 40

E&P waste (solid) description 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:

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? No

Does the previous reply indicate consideration of background concentrations?

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. Timeliness of reclamation initiation and completion will be subject to NFA, surface owner discretion and land use, and suitable ground conditions which allow for execution of surface reclamation activities so as to not cause unwarranted damages.

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 provide the seed mix? Yes

If YES, does the seed mix comply with local soil conservation district recommendations? Yes

Did the local soil conservation district provide the seed mix? No

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 04/30/2024

Proposed date of completion of Reclamation. 04/30/2024

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. 01/12/2023

Actual Spill or Release date, or date of discovery. 01/11/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/02/2022

Proposed site investigation commencement. 12/02/2022

Proposed completion of site investigation. 01/26/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/05/2023

Proposed date of completion of Remediation. 01/26/2023

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 results indicate that constituent concentrations in the soil samples collected from the base of the wellhead cut and cap excavation areas from along the former flowline, and from the final flowline excavation extent, were in compliance with COGCC Table 915-1 standards, and/or within the range of site-specific background levels, with exception to the pH value for sample 7-6 WH-B01@6'. However, the pH result was within the acceptable range of soil variability when compared to background levels, and it alone does not indicate that a hydrocarbon or produced water release occurred at the former I&J 7-6 wellhead location. Due to the depth of the elevated pH result, it was determined to be acceptable to leave in place. The portion of the flowlines between sample locations 1,27,17,7,21 6 FL B03@4' and 1,27,17,7,21 6 FL B17@4' was removed without additional potholing activities, as this section was installed within a buried protective sleeve through this area, and was therefore isolated from the surrounding material up to the time when it was removed. Based on the analytical and soil screening data provided herein, assessment is complete at this location, and Kerr-McGee is requesting an NFA determination for this location.

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: _____

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: _____

Date: _____

Remediation Project Number: 25452

COA Type**Description**

	Based on the information presented, the elevated pH sample from the spill area appears to be similar to background pH; therefore, elevated pH may not be associated with E&P activities. It appears that no further remedial 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 background levels or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.
1 COA	

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**

403334237	ANALYTICAL RESULTS
403334238	PHOTO DOCUMENTATION
403334240	OTHER
403334241	SITE MAP
403334244	SOIL SAMPLE LOCATION MAP
403334245	SOIL SAMPLE LOCATION MAP
403334246	SOIL SAMPLE LOCATION MAP
403334247	OTHER
403334249	ANALYTICAL RESULTS

Total Attach: 9 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)