

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.

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

OPERATOR INFORMATION

Name of Operator: <u>KERR MCGEE OIL & GAS ONSHORE LP</u>	Operator No: <u>47120</u>	Phone Numbers
Address: <u>P O BOX 173779</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80217-3779</u>
Contact Person: <u>Phillip Hamlin</u>	Email: <u>Phillip_Hamlin@oxy.com</u>	
		Phone: <u>(970) 336-3500</u>
		Mobile: <u>(970) 515-1161</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 15868 Initial Form 27 Document #: 402471008

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: <u>LOCATION</u>	Facility ID: <u>318080</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>ADDIE M. KING GAS UNIT-61N66W 4SWSW</u>	Latitude: <u>40.076140</u>	Longitude: <u>-104.788210</u>	
** correct Lat/Long if needed: Latitude: <u>40.076460</u>		Longitude: <u>-104.787821</u>	
QtrQtr: <u>SWSW</u>	Sec: <u>4</u>	Twp: <u>1N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>478864</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>SPILL/RELEASE POINT</u>	Latitude: <u>40.076460</u>	Longitude: <u>-104.787821</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>4</u>	Twp: <u>1N</u>	Range: <u>66W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications CL

Most Sensitive Adjacent Land Use Non-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

The nearest domestic water well is located approximately 200 feet northeast of the release location. Surface water is located approximately 1,250 feet north-northeast of the release location. Multiple buildings are located within ¼ mile 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	GROUNDWATER	See attached data	Groundwater sampling and laboratory analysis
Yes	SOILS	234' (E-W) x 128' (N-S) x 12' 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 December 7, 2020, historical impacts were discovered during abandonment activities at the King Addie M GU 1 production facility, and excavation activities were initiated. Groundwater was encountered in the excavation area at approximately 11 feet below ground surface (bgs). The COGCC issued Spill/Release Point ID 478864 for this release.

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 as described in a previous Form 27-Supplemental update (COGCC Document No. 402606935). Based on the data presented, impacted soils in the excavation area were remediated to be in full compliance with the COGCC Table 910-1 standards.

Proposed Groundwater Sampling

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

Groundwater was encountered in the excavation at approximately 11 ft bgs. Groundwater samples GW01 and GW02 were collected from the excavation on December 14 and 28, 2020, respectively, and submitted for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX). Analytical results indicated that constituent concentrations in GW01 and GW02 exceeded COGCC Table 910-1 standards. Groundwater sample GW03 was collected from the excavation on January 18, 2021, and submitted for analysis of BTEX, naphthalene, 1,2,4- and 1,3,5-trimethylbenzene (TMB), chloride, sulfate, and total dissolved solids (TDS). Analytical results indicated that constituent concentrations in GW03 were in compliance with COGCC Table 915-1 standards for organic compounds. Inorganic constituents in groundwater will be evaluated following monitoring well installation and determination of background concentrations.

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):

The excavation groundwater sample locations are illustrated on Figure 1; groundwater analytical data is presented in Table 1. Temporary groundwater monitoring wells will be installed to fully define the extent and magnitude of the potentially remaining residual dissolved-phase groundwater impacts.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)
 _____ Chemical oxidation
 _____ Air sparge / Soil vapor extraction
 _____ Natural Attenuation
 _____ Other _____

Yes _____ Excavate and offsite disposal
 _____ If Yes: Estimated Volume (Cubic Yards) _____ 7077
 _____ Name of Licensed Disposal Facility or COGCC Facility ID # _____ 149007
 _____ 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
 _____ Yes _____ Natural Attenuation
 _____ Yes _____ Other _____ Groundwater removal, OxPure®
 _____ activated carbon application _____

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.

Temporary groundwater monitoring wells will be installed to fully define the extent and magnitude of the potentially remaining residual dissolved-phase groundwater impacts. Site access and monitoring well placements are currently being considered. Subsequent to installation, the temporary groundwater monitoring wells will be sampled on a quarterly basis and submitted for laboratory analysis of Table 915-1 constituents. The excavation groundwater sample locations are illustrated on Figure 1, and groundwater analytical data is presented in Table 1. Subsequent to installation, a figure illustrating the locations of the surveyed temporary groundwater monitoring wells will be provided in a Form 27-Supplemental update.

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 Project status update

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 1,100 cubic yards of hydrocarbon-impacted soil were transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado, for recycling. Approximately 27 cubic yards of hydrocarbon-impacted soil slurry were transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado, for recycling. Approximately 1,635 barrels of hydrocarbon-impacted groundwater were transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado, for recycling.

Volume of E&P Waste (solid) in cubic yards 7077

E&P waste (solid) description Hydrocarbon-impacted soil

COGCC Disposal Facility ID #, if applicable: 149007

Non-COGCC Disposal Facility: Buffalo Ridge Landfill - Keenesburg, Colorado

Volume of E&P Waste (liquid) in barrels 1635

E&P waste (liquid) description Hydrocarbon-impacted groundwater

COGCC Disposal Facility ID #, if applicable: 434766

Non-COGCC Disposal Facility:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

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? No

Is additional groundwater monitoring to be conducted? Yes

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 has been restored to its pre-release grade. Kerr-McGee will conduct reclamation activities 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 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. 12/14/2020

Actual Spill or Release date, or date of discovery. 12/07/2020

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/07/2020

Proposed site investigation commencement. 12/07/2020

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 12/07/2020

Proposed date of completion of Remediation. _____

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

Form 27-Supplemental Updates will be submitted to the COGCC on a quarterly basis until the extent of groundwater impacts has been fully delineated. The Project Implementation Summary is provided as Attachment A.

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

Signed: Phillip Hamlin

Title: Senior Environmental Rep

Submit Date: 06/10/2021

Email: Phillip_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: CHRIS CANFIELD

Date: 06/15/2021

Remediation Project Number: 15868

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

0 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**

402707874	FORM 27-SUPPLEMENTAL-SUBMITTED
402707930	GROUND WATER SAMPLE LOCATION
402707940	ANALYTICAL RESULTS
402714952	IMPLEMENTATION SCHEDULE

Total Attach: 4 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)