

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: ()
Address: P O BOX 173779		
City: DENVER	State: CO Zip: 80217-3779	
Contact Person: Phil Hamlin	Email: Phil_Hamlin@oxy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 16276 Initial Form 27 Document #: 402575994

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

No Multiple Facilities

Facility Type: WELL	Facility ID:	API #: 123-08300	County Name: WELD
Facility Name: DORIS ACKERSON B 1		Latitude: 40.068364	Longitude: -104.854414
		** correct Lat/Long if needed: Latitude:	Longitude:
QtrQtr: SWNE	Sec: 11	Twp: 1N	Range: 6W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications ML
 Most Sensitive Adjacent Land Use Surface Water and Agriculture
 Is domestic water well within 1/4 mile? No
 Is surface water within 1/4 mile? Yes
 Is groundwater less than 20 feet below ground surface? Yes

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	GROUNDWATER	TBD	Groundwater Samples/Laboratory Analytical Results
Yes	SOILS	30' E-W x 25' N-S x 10' bgs	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.

This form has been prepared to summarize assessment activities conducted during the plugging and abandonment of the Doris Ackerson B 1 wellhead, and the removal of a portion of the associated flowline. In 2018 the production facility, and a portion of the flowline, associated with the Doris Ackerson B 1 wellhead, were removed in preparation for the Leinweber Fed 32N 5C 5NHZ O SA production facility construction. Assessment activities began on February 22, 2021. Soil assessment activities were conducted in accordance with COGCC Rule 911.a.

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):

Between February 22 and May 7, 2021, soil samples were collected from the wellhead excavation and flowline potholes. The samples were field screened for total volatile organic compounds using a photoionization detector (PID). Based on low PID readings at the flowline, soil samples were not submitted for laboratory analysis. Based on PID readings from the base and sidewalls of the wellhead excavation, two samples were submitted for analysis. Analytical results indicated soil was in full compliance with Table 915-1 standards at the extent of excavation, except for selenium. Background soil samples indicated boron and selenium are naturally occurring at these levels in the native soil. Therefore, further excavation was not warranted. The wellhead excavation and flowline are depicted on Figure 1 and Figure 2, respectively. The soil sample results and PID readings are summarized in Table 1 and Table 2, respectively.

Proposed Groundwater Sampling

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

On February 22, 2021, one groundwater sample (GW01) was collected from the wellhead excavation for Table 915-1 analyses. Based on the laboratory analytical results groundwater concentrations for sample GW01 exceeded COGCC Table 915-1 allowable levels for chloride and sulfate. The excavation groundwater sample location is depicted on Figure 1. The groundwater sample analytical results are summarized in Table 3.

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 9

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 750

Groundwater

Number of groundwater samples collected 1

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 6'

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 1

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 6.11

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 10

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?

The former wellhead is located off site in rangeland.

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

Seven background soil samples were collected for laboratory analysis of Table 915-1 metals. Laboratory analytical results indicated that levels of arsenic, boron, and selenium are naturally elevated in the native soil.

☐ 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?

Groundwater monitoring wells will be installed at the site to fully define the extent and magnitude of any potentially remaining groundwater impacts. A project implementation schedule is included as an attachment.

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 150 cubic yards of impacted soil were removed from the site and transported to Front Range Landfill in Erie, Colorado, for disposal. Approximately 205 barrels of impacted groundwater were removed from the site and transported to Aggregate Recycle Facility in Weld County, Colorado, for recycling. Disposal records are kept on file and available upon request.

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.

The impacted soil has been excavated and transported to a licensed disposal facility.

Soil Remediation Summary

☐ 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) _____ 150
_____ 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.

Groundwater monitoring wells will be installed at the site to fully define the extent and magnitude of any potentially remaining groundwater impacts. The monitoring wells will be surveyed to determine the groundwater flow direction. Groundwater monitoring activities will be conducted on a quarterly schedule until a No Further Action status request is warranted. A project implementation schedule is included as an attachment.

REMEDATION 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

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 205 barrels of impacted groundwater were removed from the site and transported to Aggregate Recycle Facility in Weld County, Colorado, for recycling.

Volume of E&P Waste (solid) in cubic yards 150

E&P waste (solid) description Historically Impacted Soil

COGCC Disposal Facility ID #, if applicable:

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

Volume of E&P Waste (liquid) in barrels 205

E&P waste (liquid) description Historically Impacted Groundwater

COGCC Disposal Facility ID #, if applicable: 434766

Non-COGCC Disposal Facility:

REMEDATION COMPLETION REPORT

REMEDATION 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? Yes

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 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. 03/23/2021

Actual Spill or Release date, or date of discovery. 03/05/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/22/2021

Proposed site investigation commencement. 02/22/2021

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/22/2021

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

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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: ` Phil Hamlin _____

Title: Senior Environmental Rep. _____

Submit Date: ` 12/13/2021 _____

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: CHRIS CANFIELD _____

Date: 12/21/2021 _____

Remediation Project Number: 16276 _____

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**

402884052	FORM 27-SUPPLEMENTAL-SUBMITTED
402884068	ANALYTICAL RESULTS
402884069	IMPLEMENTATION SCHEDULE
402884079	SOIL SAMPLE LOCATION MAP
402884081	SOIL SAMPLE LOCATION MAP

Total Attach: 5 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)