

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
Candice (Nikki) Graber

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 17326 Initial Form 27 Document #: 402633727

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>302237</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>CUMMINGS-65N67W 19NWNW</u>	Latitude: <u>40.391180</u>	Longitude: <u>-104.942270</u>	
** correct Lat/Long if needed: Latitude: <u>40.392092</u>		Longitude: <u>-104.942885</u>	
QtrQtr: <u>NWNW</u> Sec: <u>19</u> Twp: <u>5N</u> Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>			
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>480008</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Cummings 19-22 Separator Release</u>	Latitude: <u>40.392214</u>	Longitude: <u>-104.943070</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNW</u> Sec: <u>19</u> Twp: <u>5N</u> Range: <u>67W</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? No

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

Multiple buildings are located within 1/4 mile of the facility.

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
No	GROUNDWATER	No impacts encountered	Groundwater Sampling/laboratory analytical results
Yes	SOILS	15' (N-S) x 10' (E-W) x 6' 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.

Tank battery decommissioning activities were completed at the Cummings 19-22, 23, 24 O SA production facility location on May 10, 2021. Groundwater was encountered during facility decommissioning activities at approximately 5.5 feet below ground surface (bgs). Visual inspection and field screening of soils at the former production facility infrastructure locations was conducted following tank battery decommissioning activities, and five confirmation soil samples were collected from the former separator, above-ground storage tank (AST), and partially buried produced water vault (PWV) locations, at depths ranging from 3 inches to 4 feet bgs. The 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 USEPA Method 8260D, TPH - diesel range organics (DRO: C10-C28) and oil range organics (ORO: C28-C40) by USEPA Method 8015D. Additionally, sample PW-N01@2' was submitted for laboratory analysis of pH, specific conductance (EC) and sodium adsorption ratio (SAR) by saturated paste method, and boron by hot water soluble soil extract method. Laboratory analytical results indicated that impacted soil was present at the former separator location due to TPH, 1,2,4- and 1,3,5-trimethylbenzene (TMB) concentrations above the applicable COGCC Table 915-1 standards. As such, a Form 19-Initial/Supplemental Spill/Release Report (COGCC Document No. 402686065) was submitted on May 11, 2021, and the COGCC issued Spill/Release Point ID 480008. 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 is presented in Table 1. The soil and groundwater sample and field screening locations are illustrated on Figure 2.

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 July 7, 2021, excavation activities were conducted to address remaining soil impacts below the former separator location. Five (5) confirmation soil samples were collected from the final excavation extents and submitted for laboratory analysis of Table 915-1 volatile organic compounds (VOCs) and TPH. Additionally, sample SEP-B03@6' was submitted for laboratory analysis of the full Table 915-1 analytical suite, using standard methods appropriate for detecting the target analytes. Analytical results indicate that constituent concentrations in the 5 confirmation soil samples were in compliance with COGCC standards or within the range of site-specific background metals concentrations. Soil analytical results are summarized in Tables 2 through 5.

Proposed Groundwater Sampling

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

Groundwater was encountered in the separator excavation at approximately 5.5 feet bgs. On July 7, 2021, a groundwater sample (GW01) was collected from the excavation area and submitted for laboratory analysis of BTEX, naphthalene, and 1,2,4- and 1,3,5-trimethylbenzene (TMB) by USEPA Method 8260D. Groundwater analytical results indicated that constituent concentrations in sample GW01 were in compliance with the COGCC Table 915-1 standards. Groundwater analytical results are summarized in Table 6. The groundwater sample location is illustrated on Figure 2.

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 May 10, 2021, visual inspection and field screening of soils was conducted at 3 sidewall locations within the PWV removal excavation area, one location at the former AST, one pothole locations during dump line removal, one location at the former emissions control device (ECD), and one location adjacent to the meter house. 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 is presented in Table 1; and analytical results are presented in Tables 2 through 6. The soil and groundwater sample and field screening locations are illustrated on Figure 2. The laboratory analytical reports and field notes are provided as Attachment A and B respectively.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 10
Number of soil samples exceeding 915-1 1
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 150

NA / ND

-- Highest concentration of TPH (mg/kg) 780.5
-- Highest concentration of SAR 0.993
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 6

Groundwater

Number of groundwater samples collected 1
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet) 6'
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 915-1 0

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) _____
ND Highest concentration of Methane (mg/l) _____

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.

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 PW-BG01@2', BG02@3", and BG02@6' were collected from native material adjacent to the production facility location and the separator, at depths of approximately 2 feet, 3 inches, and 6 feet bgs, respectively. Background samples BG02@3' and BG02@6' were analyzed for total metals by USEPA Method 6020B and all background 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 samples are presented in Tables 4 and 5.

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 May 10 and July 7, 2021, approximately 12 cubic yards of impacted soil were hydro-excavated and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling. On July 14 and 21, 2021, approximately 115 barrels of groundwater were removed from the excavation areas via vacuum truck and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling.

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.

Laboratory data indicate that impacted soils in the separator excavation area have been remediated to be in compliance with the COGCCC Table 915-1 standards. Laboratory analytical results indicate that constituent concentrations in the groundwater sample collected from the separator excavation were in compliance with the COGCC Table 915-1 standards. Based on the analytical 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)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) _____ 12

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID # _____ 434766

_____ 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

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:

Between May 10 and July 7, 2021, approximately 12 cubic yards of impacted soil were transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado, for recycling. On July 14 and 21, 2021, approximately 115 barrels of 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 12

E&P waste (solid) description Impacted soil

COGCC Disposal Facility ID #, if applicable: 434766

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels 115

E&P waste (liquid) description 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? 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. 05/11/2021

Actual Spill or Release date, or date of discovery. 05/10/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/10/2021

Proposed site investigation commencement. 05/10/2021

Proposed completion of site investigation. 07/07/2021

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/10/2021

Proposed date of completion of Remediation. 07/07/2021

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

Based on the analytical and field screening data provided herein, 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: 10/27/2021

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: Candice (Nikki) Graber

Date: 10/27/2021

Remediation Project Number: 17326

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

	<p>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.</p> <p>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.</p>
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**

402810843	FORM 27-SUPPLEMENTAL-SUBMITTED
402813619	ANALYTICAL RESULTS
402813624	SITE MAP
402817304	PHOTO DOCUMENTATION
402817305	ANALYTICAL RESULTS
402824162	SOIL SAMPLE LOCATION MAP

Total Attach: 6 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)