

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

403085285

Receive Date:

06/22/2022

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
Address: <u>P O BOX 173779</u>		Phone: <u>(970) 336-3500</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>	Mobile: <u>(970) 515-1698</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 22602 Initial Form 27 Document #: 402996464

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>TANK BATTERY</u>	Facility ID: <u>328953</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>WAGNER 2C-10HZ</u>		Latitude: <u>40.042310</u>	Longitude: <u>-104.870240</u>
		** correct Lat/Long if needed: Latitude: <u>40.040047</u>	Longitude: <u>-104.873339</u>
QtrQtr: <u>SWNE</u>	Sec: <u>22</u>	Twp: <u>1N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>
Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>481830</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Wagner 1N-W10HZ Release</u>		Latitude: <u>40.039414</u>	Longitude: <u>-104.869994</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>SENE</u>	Sec: <u>22</u>	Twp: <u>1N</u>	Range: <u>67W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SW

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 ¼ mile of the facility.
The nearest building is located approximately 1,050 feet southeast of the facility.
The nearest domestic water well is located approximately 330 feet east of the facility.
Surface water is located approximately 740 feet northwest of the facility.
A wetland is located approximately 740 feet northwest of the facility.
The facility is located within ¼ mile of a designated high priority habitat.

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	SOILS	60' (E-W) x 28' (N-S) x 0.25' 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.

On March 25, 2022, a release occurred at the Wagner 1N-W10HZ Production Facility location due to approximately 6 barrels of fluid released inside secondary containment. Between March 30 and April 12, 2022, all of the potentially-impacted material within the secondary containment berm was removed down to the liner via hydro-excavation activities, in accordance with the COA that was issued for the Form 19-Initial Spill/Release Report submitted on March 28, 2022 (COGCC Document No. 402995696). Following hydro-excavation activities, the tank battery liner was inspected for integrity, and was determined to be potentially compromised in two areas. As such, five (5) confirmation soil samples (SS01 - SS05) were collected on April 12, 2022, from the areas most likely to be impacted and where the integrity of the tank battery liner was in question, and submitted for laboratory analysis to determine if impacts were present below the liner. Based on field observations and PID readings, sample SS01@3" was selected for waste characterization purposes and submitted for laboratory analysis of the full Table 915-1 analytical suite, using standard methods appropriate for detecting the target analytes. Based on the analytical results for waste characterization sample SS01@3", the remaining soil samples were submitted for laboratory analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-, and 1,3,5-trimethylbenzene (TMB), total petroleum hydrocarbons (TPH) - gasoline range organics (GRO: C6-C10) by United States Environmental Protection Agency (USEPA) Method 8260D, TPH - diesel and oil range organics (DRO: C10-C28 & ORO: C28-C40) by USEPA Method 8015D, polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270D SIM, and barium (Ba) by USEPA Method 6020B. A topographic Site Location Map is provided as Figure 1. Soil sample location and field screening data are presented in Table 1. The soil sample 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 April 12, 2022, 5 confirmation soil samples were collected from below the tank battery liner, at a depth of approximately 3 inches below ground surface (bgs), and submitted for laboratory analysis of select constituents in COGCC Table 915-1, as described in the Initial Action Summary above. Analytical results indicated that constituent concentrations in the 5 confirmation soil samples were in compliance with the COGCC Table 915-1 Protection of Groundwater Soil Screening Level Concentrations and/or within the range of site-specific background metals concentrations x 1.25, with exception to the Ba concentrations in samples SS01@3" and SS04@3". However, these results were in compliance with the COGCC Table 915-1 Residential Soil Screening Level Concentrations and within the range of acceptable soil variability, and the Ba concentrations alone are not indicative of residual impacts due to a hydrocarbon or produced water release. Soil analytical results are summarized in Tables 2 - 5.

Proposed Groundwater Sampling

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

Groundwater was not encountered during removal of the affected facility infrastructure or hydro-excavation of the material within the tank battery secondary containment berm.

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):

Soil sample location and field screening data are presented in Table 1. Soil analytical results are presented in Tables 2 through 5. The soil sample and field screening locations are illustrated on Figure 2. 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 5

Number of soil samples exceeding 915-1 0

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

Approximate areal extent (square feet) 1680

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 4.61

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 0

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

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?

On April 12, 2022, background soil samples BG01@3" - BG04@3" were collected from native material adjacent to the tank battery bermed area. The background soil samples were submitted for laboratory analysis of the Soil Suitability for Reclamation Parameters and Table 915-1 metals using standard methods appropriate for detecting the target analytes in Table 915-1. Analytical results for the background soil 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 March 30 and April 12, 2022, approximately 162 cubic yards of potentially-impacted material within the secondary containment berm was removed down to the liner via hydro-excavation activities, and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado for recycling. Laboratory results indicate that constituent concentrations in the 5 confirmation soil samples collected on April 12, 2022, were in compliance with the COGCC Table 915-1 Protection of Groundwater Soil Screening Level Concentrations and/or within the range of site-specific background metals concentrations x 1.25, with exception to the Ba concentrations in samples SS01@3" and SS04@3". However, these results were in compliance with the COGCC Table 915-1 Residential Soil Screening Level Concentrations and within the range of acceptable soil variability, and the Ba concentrations alone are not indicative of residual impacts due to a hydrocarbon or produced water release. Based on the depth of the potential Ba impacts to soil at sample locations SS01@3" and SS04@3" (3 inches bgs), no groundwater encountered during removal of the affected facility infrastructure or hydro-excavation of the material within the tank battery secondary containment berm, and no indication that a pathway to groundwater exists from the potential Ba soil impacts, Kerr-McGee is requesting COGCC approval to evaluate soil concentrations at this site based on the Table 915-1 Residential Soil Screening Level Concentrations. Pending COGCC approval of this Form 27-Supplemental, the hydro-excavation area will be backfilled and contoured to match pre-existing site conditions, and the affected facility infrastructure will be replaced and returned to service.

REMEDIAL 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 results indicate that constituent concentrations in the 5 confirmation soil samples collected on April 12, 2022, were in compliance with the COGCC Table 915-1 Protection of Groundwater Soil Screening Level Concentrations and/or within the range of site-specific background metals concentrations x 1.25, with exception to the Ba concentrations in samples SS01 @3" and SS04@3". However, these results were in compliance with the COGCC Table 915-1 Residential Soil Screening Level Concentrations and within the range of acceptable soil variability, and the Ba concentrations alone are not indicative of residual impacts due to a hydrocarbon or produced water release. Based on the depth of the potential Ba impacts to soil at sample locations SS01 @3" and SS04@3" (3 inches bgs), no groundwater encountered during removal of the affected facility infrastructure or hydro-excavation of the material within the tank battery secondary containment berm, and no indication that a pathway to groundwater exists from the potential Ba soil impacts, Kerr-McGee is requesting COGCC approval to evaluate soil concentrations at this site based on the Table 915-1 Residential Soil Screening Level Concentrations. Pending COGCC approval of this request, 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

Yes

Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards)

162

Name of Licensed Disposal Facility or COGCC Facility ID #

434766

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.

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:

Approximately 162 cubic yards of potentially-impacted material were removed via hydro-excavation and transported to the Kerr-McGee Aggregate Recycle Facility in Weld County, Colorado, for recycling.

Volume of E&P Waste (solid) in cubic yards 162

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

COGCC Disposal Facility ID #, if applicable: 434766

Non-COGCC Disposal Facility:

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.

Pending COGCC approval of this Form 27-Supplemental, the hydro-excavation area will be backfilled and contoured to match pre-existing site conditions, and the affected facility infrastructure will be replaced and returned to service. The site will be reclaimed in accordance with COGCC 1000 Series Reclamation Rules following future facility decommissioning activities.

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. 03/25/2022

Actual Spill or Release date, or date of discovery. 03/25/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/25/2022

Proposed site investigation commencement. 03/30/2022

Proposed completion of site investigation. 04/12/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/25/2022

Proposed date of completion of Remediation. 04/12/2022

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 5 confirmation soil samples collected on April 12, 2022, were in compliance with the COGCC Table 915-1 Protection of Groundwater Soil Screening Level Concentrations and/or within the range of site-specific background metals concentrations x 1.25, with exception to the Ba concentrations in samples SS01@3" and SS04@3". However, these results were in compliance with the COGCC Table 915-1 Residential Soil Screening Level Concentrations and within the range of acceptable soil variability, and the Ba concentrations alone are not indicative of residual impacts due to a hydrocarbon or produced water release. Based on the depth of the potential Ba impacts to soil at sample locations SS01@3" and SS04@3" (3 inches bgs), no groundwater encountered during removal of the affected facility infrastructure or hydro-excavation of the material within the tank battery secondary containment berm, and no indication that a pathway to groundwater exists from the potential Ba soil impacts, Kerr-McGee is requesting COGCC approval to evaluate soil concentrations at this site based on the Table 915-1 Residential Soil Screening Level Concentrations. Pending COGCC approval of this request, 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.

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: 06/22/2022

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: Candice (Nikki) Graber

Date: 07/11/2022

Remediation Project Number: 22602

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

	Based on the information presented, it appears the Spill was fully contained within a lined secondary containment and there was no contact with soil. 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.
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**

403085285	FORM 27-SUPPLEMENTAL-SUBMITTED
403085563	SITE MAP
403085564	SOIL SAMPLE LOCATION MAP
403085569	ANALYTICAL RESULTS
403085570	ANALYTICAL RESULTS
403085579	PHOTO DOCUMENTATION

Total Attach: 6 Files

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

		Stamp Upon Approval
--	--	---------------------

Total: 0 comment(s)