FORM 27 Rev 5/22

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: 403413657
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 INFORMATON

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator No: 47120

Phone Numbers

Address: P O BOX 173779
Phone: (970) 336-3500
City: DENVER State: CO Zip: 80217-3779
Mobile: (970) 515-1698
Contact Person: Gregory Hamilton
Email: Gregory_Hamilton@oxy.com

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 25182 Initial Form 27 Document #: 403170022

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.
- [X] 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.
- [X] 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 #: 123-21632 County Name: WELD
Facility Name: PSC 15-11 Latitude: 40.233850 Longitude: -104.856676
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSE Sec: 11 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL Facility ID: API #: 123-24048 County Name: WELD
Facility Name: PSC 37-11 Latitude: 40.233751 Longitude: -104.856527
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSE Sec: 11 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 483687 API #: County Name: WELD

Facility Name: PSC 15-11 Flowline Historical Rel. Latitude: 40.234207 Longitude: -104.855326

** correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SWSE Sec: 11 Twp: 3N Range: 67W Meridian: 6 Sensitive Area? Yes

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

The nearest domestic water well is located approximately 300 feet northeast of the wellheads.
Surface water is located approximately 375 feet south of the wellheads.
A wetland is located approximately 280 feet northeast of the wellheads.
The wellheads are located within a designated high-priority habitat.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
- [X] Produced Water
- [X] Oil
- [X] Condensate
- [ ] Drilling Fluids
- [ ] Drill Cuttings
- [ ] **Other E&P Waste**
- [ ] Workover Fluids
- [ ] Tank Bottoms
- [ ] Pigging Waste
- [ ] Rig Wash
- [ ] Spent Filters
- [ ] Pit Bottoms
- [ ] Other (as described by EPA)
- [ ] **Non-E&P Waste**

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	GROUNDWATER	No impacts encountered	Groundwater samples/laboratory analytical results
Yes	SOILS	To be determined	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 PSC 15-11 and PSC 37-11 wellheads on December 2 and 21, 2022, respectively. Groundwater was encountered in the wellhead excavation areas at approximately 3 to 6 feet below ground surface (bgs). Visual inspection and field screening of soils around the wells and associated pumping equipment was conducted following cut and cap operations, and soil samples were submitted for laboratory analysis to determine if a release occurred. The flowlines associated with these wellheads were removed on December 2, 2022 through January 6, 2023 and soil samples were collected from the locations where the flowline risers were disconnected at the wellheads and separator, where the flowlines changed direction or crossed, and where groundwater and/or potential soil impacts were encountered, and submitted for laboratory analysis to determine if a release occurred. Based on field observations, soil samples 15-11-FL-B07@4' and 15-11-FL-B09@4' were selected for waste characterization purposes and analyzed for the full COGCC Table 915-1 analytical suite using standard COGCC-approved methods. Laboratory analytical results for the waste characterization samples indicated that soil impacts were present due to TMB, PAHs, and barium (Ba) concentrations above COGCC standards. As such, a Form 19-Initial/Supplemental Spill/Release Report (Document No. 403282235) was submitted on January 6, 2023, and the COGCC issued Spill/Release Point ID 483687. Analytical results indicated that the remaining constituent concentrations in the soil samples collected during wellhead cut and cap and flowline removal activities were in compliance with COGCC standards and/or within the range of site-specific background levels.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Soil samples have been collected as described in a previous Form 27-Supplemental update (COGCC Document No. 403331515). Analytical results indicated that soil impacts were present at flowline sample locations 15-11-FL-B07@4' and 15-11-FL-B09@4' due to TMB, PAHs, and Ba. The remaining constituent concentrations in the soil samples collected during cut and cap and flowline removal activities were in compliance with COGCC standards and/or within the range of site-specific background levels. Excavation and assessment activities are ongoing, and future confirmation soil samples will be submitted for analysis of BTEX, TPH, TMB, PAHs, and Ba, based on the waste characterization results and COGCC-approved analyte reduction request (Document No. 403331515).

Proposed Groundwater Sampling

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

Groundwater samples were collected as described in a previous Form 27-Supplemental update (COGCC Document No. 403331515). Analytical results indicated that constituent concentrations in the 5 groundwater samples were in compliance with COGCC Table 915 -1 standards. If groundwater is encountered during ongoing excavation and site assessment activities to address remaining soil impacts, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted for laboratory analysis of BTEX, naphthalene, 1,2,4- and 1,3,5-TMB, using standard methods appropriate for detecting the target analytes in COGCC Table 915-1.

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):

No additional assessment or remediation activities have been conducted at this site since the previous Form 27-Supplemental update was submitted to the COGCC on March 2, 2023 (Document No. 403331515). As such, no additional screening or sampling results are provided in this document. Excavation and site assessment activities to address remaining soil impacts along the former PSC 15-11 flowline are ongoing, and will be summarized in a forthcoming Form 27-Supplemental update.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 13
Number of soil samples exceeeding 915-1: 3
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet): 100

NA / ND

-- Highest concentration of TPH (mg/kg): 0.991
-- Highest concentration of SAR: 7.16
BTEX > 915-1: No
Vertical Extent > 915-1 (in feet): 4

Groundwater

Number of groundwater samples collected: 5
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet): 3
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):
-- Highest concentration of Xylene (µg/l): 2.87
NA 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?

[X] Were background samples collected as part of this site investigation?

Background soil samples were collected as described in a previous Form 27-Supplemental update (COGCC Document No. 403331515).

[ ] Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards): Volume of liquid waste (barrels):

[X] Is further site investigation required?

Excavation and assessment activities to address remaining soil impacts along the former PSC 15-11 flowline are ongoing, and will be summarized in a forthcoming Form 27-Supplemental update.

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.

Excavation and assessment activities to address remaining soil impacts along the former PSC 15-11 flowline are ongoing, and no material has been transported off-site for disposal to-date. Pending excavation activities, impacted soils will be removed from the site and transported to a licensed disposal facility. Disposal records will be 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.

Laboratory analytical results indicate that constituent concentrations in the confirmation soil samples collected during wellhead cut and cap operations 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 in sample WH-B01@6'. However, the pH result was within the acceptable range of soil variability, and it alone does not indicate that a hydrocarbon or produced water release occurred at the former PSC 37-11 wellhead location. Due to the depth of the elevated pH result, it was determined to be acceptable to leave in place. Based on the COGCC-approved Form 27-Supplemental update (Document No. 403331515), assessment is complete at the PSC 15, 37-11 wellheads and no further activities are required in these areas. Impacted soil remains along the former PSC 15-11 flowline, at sample locations 15-11-FL-B07@4' and 15-11-FL-B09@4'. Excavation and assessment activities to address remaining soil impacts along the former PSC 15-11 flowline are ongoing and will be summarized in a forthcoming Form 27-Supplemental update. Estimated time to attain NFA is TBD based on the extent of impacted soil.

Soil Remediation Summary

☐ **In Situ**

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

☐ **Ex Situ**

- Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards)
  - 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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

[X] Other Project status update

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: $ 10000

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

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

E&P waste (solid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

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? 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? 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. 12/31/2024

Proposed date of completion of Reclamation. 12/31/2024

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. 01/06/2023

Actual Spill or Release date, or date of discovery. 01/06/2023

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. 12/31/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 01/05/2023

Proposed date of completion of Remediation. 12/31/2023

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

No additional assessment or remediation activities have been conducted at this site since the previous Form 27-Supplemental update was submitted to the COGCC on March 2, 2023 (Document No. 403331515). As such, no additional screening or sampling results are provided in this document. Excavation and site assessment activities to address remaining soil impacts along the former PSC 15-11 flowline are ongoing, and will be summarized in a forthcoming Form 27-Supplemental update. Form 27-Supplemental updates will continue to be submitted to the COGCC on a quarterly basis.

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

Signed: Gregory Hamilton Title: Senior Env. 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: 25182

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

Total Attach: 0 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)