FORM
27
Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

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Document Number: 401983039
Receive Date: 03/26/2019
Report taken by: Candice (Nikki) Graber

Site Investigation and Remediation Workplan (Initial 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 INFORMATON

Name of Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator No: 47120
Address: P O BOX 173779
City: DENVER State: CO Zip: 80217-3779
Contact Person: Phil Hamlin Email: Phil.Hamlin@anadarko.com

Phone Numbers
Phone: (970) 336-3500
Mobile: ( )

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12943 Initial Form 27 Document #: 401983039

PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [x] 909.c.(1), Rule 905: Pit or PW vessel closure
- [ ] 909.c.(2), Rule 906: Spill/Release Remediation
- [ ] 909.c.(3), Rule 907.e.: Land treatment of oily waste
- [ ] 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure
- [ ] 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water
- [ ] Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b.
- [ ] Rule 909.e.(2)B.: Closure of remediation project
- [ ] Rule 906.c.: Director request
- [ ] Other

SITE INFORMATION

N Multiple Facilites (in accordance with Rule 909.c.)

Facility Type: PIT Facility ID: 118126 API #: County Name: WELD
Facility Name: ARISTOCRAT Latitude: 40.244728 Longitude: -104.660803
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: NENE Sec: 9 Twp: 3N Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications: SM
Most Sensitive Adjacent Land Use: Surface Water and Rangeland
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

Water well approximately 1,280 feet (ft) south-southeast and surface water (Platte Valley Canal) approximately 700 ft northeast. Depth to groundwater to be determined.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- ☐ **E&P Waste**
  - ☐ Produced Water
  - ☐ Oil
  - ☐ 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**

  No Waste Generated

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	To be sampled	To be sampled

INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

A subsurface assessment will be conducted to determine if petroleum hydrocarbon impacts to the subsurface media exist from a former earthen pit at the site. The former pit was identified in a Colorado Oil and Gas Conservation Commission (COGCC) Field Inspection Form (Document No. 689500951).

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):

Two soil borings will be advanced to approximately 6 feet below ground surface at the former pit location, as identified during the COGCC inspection. The soil borings will be continuously field screened using a photoionization detector (PID). A soil sample will be collected from each boring from the interval with the highest PID reading. In the absence of any elevated PID reading, a soil sample will be collected from the total depth of each boring. The soil samples will be submitted for laboratory analysis of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and total xylenes (BTEX), pH, and specific conductivity (EC). The laboratory analytical results will be provided to the COGCC in a supplemental eForm 27.

Proposed Groundwater Sampling

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

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 0

Number of soil samples exceeeding 910-1

Was the areal and vertical extent of soil contamination delineated?

Approximate areal extent (square feet)

NA / ND

Highest concentration of TPH (mg/kg)

Highest concentration of SAR

BTEX > 910-1

Vertical Extent > 910-1 (in feet)

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 910-1

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 910-1

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?

☐ 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?

A subsurface site assessment will be conducted to determine if petroleum hydrocarbon impacts to the subsurface media exist from a former earthen pit at the site.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Soil samples will be collected from the former earthen pit location for laboratory analysis of TPH, BTEX, pH, and EC. If impacted soil with concentrations exceeding COGCC Table 910-1 allowable levels are encountered, they will be excavated and transported to either the Kerr-McGee Land Treatment Facility in Weld County, Colorado, or to a licensed disposal facility, as applicable.

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.

NA

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

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

No Natural Attenuation

No 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.

NA

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other _____

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? 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: _____

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 earthen pit has been removed, and the site was restored to its pre-release grade.

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 approve the seed mix? _____

If NO, does the seed mix comply with local soil conservation district recommendations? _____

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/14/2019

Date of commencement of Site Investigation. 03/14/2019

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

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:` 03/26/2019 Email: Phil.Hamlin@anadarko.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: 03/28/2019

Remediation Project Number: 12943

COA Type	Description

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
401983039	FORM 27-INITIAL-SUBMITTED

Total Attach: 1 Files

General Comments

User Group	Comment	Comment Date
Environmental	Location lies within the recommended buffer of a Bald Eagle roost. Please note that Approval of this Form 27 does not supersede any Federal, State or Local regulations pertaining to the Migratory Bird Treaty Act. COGCC recommends consultation with the Colorado Parks and Wildlife.	03/28/2019

Total: 1 comment(s)