FORM 27 Rev 3/16

# State of Colorado
# Oil and Gas Conservation Commission

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Report taken by: PETER GINTAUTAS

## 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.
Refer to Rules 340, 905, 906, 907, 908, 909, and 910

## OPERATOR INFORMATON

Name of Operator: KERR MCGEE GATHERING LLC Operator No: 47121
Address: PO BOX 173779
City: DENVER State: CO Zip: 80217
Contact Person: Charles Chase

**Phone Numbers**
Phone: (720) 929-6000
Mobile: ( )
Email: Charles.Chase@anadarko.com

## PROJECT, PURPOSE & SITE INFORMATION

### PROJECT INFORMATION

Remediation Project #: 669 Initial Form 27 Document #: 883008

### PURPOSE INFORMATION

- [ ] 901.e. Sensitive Area Determination
- [ ] 909.c.(1), Rule 905: Pit or PW vessel closure
- [x] 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: GAS COMPRESSOR STATION Facility ID: 120054 API #: County Name: WELD
Facility Name: Hambert Compressor Station Latitude: 40.268855 Longitude: -104.723490
** correct Lat/Long if needed: Latitude: 40.269495 Longitude: -104.724362
QtrQtr: SWNE Sec: 36 Twp: 4N Range: 66W Meridian: 6 Sensitive Area? Yes

### SITE CONDITIONS

General soil type - USCS Classifications SC
Most Sensitive Adjacent Land Use Agriculture
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**

Domestic water well approximately 350 feet (ft) southwest, surface water (irrigation canal) approximately 880 ft northwest, and groundwater approximately 5 feet below ground surface (bgs).

## 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 | NA | Groundwater Samples/Lab Analysis |
| Yes | SOILS | Assessment activities are ongoing | Soil Samples/Lab Analysis |

## INITIAL ACTION SUMMARY

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

In 1999 and 2000, site assessment activities were conducted at the Hambert Compressor Station to determine if historical releases had occurred, the nature of the releases, and the extent of the potential impacts to the subsurface media. Petroleum hydrocarbon impacts to soil were observed in three areas (Area 1, Area 2, and Area 3). Groundwater impacts were observed only in Area 3. The volume and source of the releases are unknown. The impacted soil and groundwater in Area 3 is being remediated under an Administrative Order on Consent issued by the Colorado Oil and Gas Conservation Commission (COGCC) to Panhandle Eastern Pipeline, Inc., now Duke Energy under Remediation No. 18.

On January 30, 2004, following completion of assessment and remediation activities, a Closure Report and Request for No Further Action (NFA) was submitted to the COGCC. The NFA request was for partial closure due to impacted soil remaining in place in Area 1 that could not be excavated at the time due to existing compressor building infrastructure. In a letter dated March 23, 2004, the COGCC granted partial NFA approval for groundwater monitoring until such time that the compressor building and infrastructure were removed and complete remediation of the inaccessible soil could be conducted.

In April 2019, the compressors and infrastructure south of the compressor building were removed and additional assessment was conducted. The general site layout and locations of Areas 1 through 3 are depicted on the Site Map attached as Figure 1.

## 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 November 1999 and October 2001, 100 soil samples were collected from 34 assessment soil borings from Areas 1 and 2. In February and March 2003, 15 soil samples were collected from the Area 1 and 2 excavations. The soil samples were submitted for laboratory analysis of total petroleum hydrocarbons (TPH). Laboratory analytical results indicated that impacted soil remained in place at Area 1 that could not be excavated due to compressor station infrastructure. Area 2 was in full compliance with the COGCC closure criteria. For additional details, please refer to the Closure Report and Request for NFA submitted to the COGCC on January 30, 2004.

In April 2019, following the removal of compressor infrastructure in Area 1, five additional assessment soil borings (SB01 through SB05) were advanced at the site. Assessment activities are ongoing. The soil sample analytical results are summarized in Table 1. The 2019 assessment soil boring locations are depicted on Figure 2.

### Proposed Groundwater Sampling

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

Between December 1999 and June 2001, groundwater assessment was conducted in Areas 1 through 3. Laboratory analytical results indicated that BTEX and volatile organic compound concentrations were in full compliance with COGCC Table 910-1 allowable levels in Areas 1 and 2. Laboratory results for Area 3 indicated a benzene exceedance; however, Area 3 is being remediated under a separate remediation number (Remediation No. 18). For additional details, please refer to the Closure Report and Request for NFA submitted to the COGCC on January 30, 2004.

### 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 | 123 | -- | Highest concentration of TPH (mg/kg) 57660 |
| Number of soil samples exceeeding 910-1 | 19 | NA | Highest concentration of SAR |
| Was the areal and vertical extent of soil contamination delineated? | No | | BTEX > 910-1 Yes |
| Approximate areal extent (square feet) | 2000 | | Vertical Extent > 910-1 (in feet) 10 |

**Groundwater**

| | | | |
|---|---|---|---|
| Number of groundwater samples collected | 19 | -- | Highest concentration of Benzene (µg/l) 0.448 |
| Was extent of groundwater contaminated delineated? | Yes | -- | Highest concentration of Toluene (µg/l) 0.895 |
| Depth to groundwater (below ground surface, in feet) | 5` | -- | Highest concentration of Ethylbenzene (µg/l) 0.171 |
| Number of groundwater monitoring wells installed | 0 | -- | Highest concentration of Xylene (µg/l) 2.542 |
| Number of groundwater samples exceeding 910-1 | 1 | NA | 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?

Petroleum hydrocarbon impacted soil remains in place in Area 1. The impacted soil could not be removed during the 2003 excavation activities due to the presence of compressor station infrastructure. In April 2019, the compressors and infrastructure south of the compressor building were removed and additional assessment was conducted. Assessment activities in this area are ongoing.

# 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.

In February and March 2003, approximately 14 cubic yards of petroleum hydrocarbon impacted soil were removed from the two excavations (Area 1 and Area 2) and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado, for recycling. Petroleum hydrocarbon impacted soil remains in place in Area 1. Assessment activities are ongoing. For additional details, please refer to the Closure Report and Request for NFA submitted to the COGCC on January 30, 2004. The excavation locations are depicted on the Assessment Site Map attached as Figure 1.

## 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.

In February and March 2003, petroleum hydrocarbon impacted soil were removed from the two excavations (Area 1 and Area 2) and transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado, for recycling. Petroleum hydrocarbon impacted soil remains in place in Area 1. For additional details, please refer to the Closure Report and Request for NFA submitted to the COGCC on January 30, 2004.

Remedial options are being evaluated to address the soil impacts identified during the 2019 assessment.

### Soil Remediation Summary

☐ **In Situ**

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

☒ **Ex Situ**

- Yes — Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 14
  - Name of Licensed Disposal Facility or COGCC Facility ID # 149007
- No — 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
- Yes — 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.

Groundwater assessment activities conducted between December 1999 and June 2001 indicated that BTEX and volatile organic compound concentrations were in full compliance with COGCC Table 910-1 allowable levels in Areas 1 and 2. Laboratory results for Area 3 indicated a benzene exceedance; however, Area 3 is being remediated under a separate remediation number (Remediation No. 18). For additional details, please refer to the Closure Report and Request for NFA submitted to the COGCC on January 30, 2004.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

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

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Soil Assessment Update

## 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:

The petroleum hydrocarbon impacted soil was transported to the Kerr-McGee Land Treatment Facility in Weld County, Colorado, for recycling.

Volume of E&P Waste (solid) in cubic yards 14

E&P waste (solid) description Petroleum hydrocarbon impacted soil

COGCC Disposal Facility ID #, if applicable: 149007

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? No

Do all soils meet Table 910-1 standards? No

Does the previous reply indicate consideration of background concentrations?

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? No

Does Groundwater meet Table 910-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

# 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 was restored to its pre-release grade. The Kerr-McGee facility remains at the site.

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 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. 03/07/2000

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/11/1999

Date of commencement of Site Investigation. 11/11/1999

Date of completion of Site Investigation.

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 02/28/2003

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:` Charles Chase

Title: Environmental Manager

Submit Date:` 06/20/2019

Email: Charles.Chase@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: PETER GINTAUTAS

Date: 06/21/2019

Remediation Project Number: 669

| COA Type | Description |
|---|---|
| | Submit reports of site investigation and progress of remediation including results of sampling and analysis on an annual basis or more often until remediation is closed. |

## 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 |
|---|---|
| 402075215 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 402080016 | LOGS |
| 402080017 | ANALYTICAL RESULTS |
| 402081459 | SITE MAP |
| 402081461 | SOIL SAMPLE LOCATION MAP |

Total Attach: 5 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| | | Stamp Upon Approval |

Total: 0 comment(s)