

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402805163

Receive Date:

09/09/2021

Report taken by:

Steven Arauza

## 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: CAERUS PICEANCE LLC	Operator No: 10456	<b>Phone Numbers</b>
Address: 1001 17TH STREET #1600		Phone: (970) 285-2739
City: DENVER State: CO Zip: 80202		Mobile: (970) 987-4650
Contact Person: Brett Middleton	Email: bmidleton@caerusoilandgas.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 7916 Initial Form 27 Document #: 2145674

#### 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: Use excavated material as backfill

#### SITE INFORMATION

No Multiple Facilities

Facility Type: LOCATION	Facility ID: 323850	API #:	County Name: GARFIELD
Facility Name: GRASS MESA RANCH-66S93W 33NENE	Latitude: 39.488140	Longitude: -107.773706	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NENE	Sec: 33	Twp: 6S	Range: 93W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use 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? No

**Other Potential Receptors within 1/4 mile**

4 WELLS: 0.07 M ESE, 0.11 M ENE, 0.22 M SE, AND 0.14 M NE. SEASONAL DRAINAGE 0.12 M ESE.

**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	10' X 10' X 26' DEEP	SOIL SAMPLING

**INITIAL ACTION SUMMARY**

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

This form is being submitted to request the use of excavated soil from the release area as backfill. Details of stockpile sampling activities are summarized in the Remediation Progress Report section of this form. Please reference the previous Form 27 Document Number 402730912 for the history of this project.

**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 ):

Background data from the nearby K22NW (Location ID 383334) and K28NW (Location ID 335428) well pads including a laboratory results summary table, laboratory reports, and photographs of sample locations are attached to COGCC Document # 402643873.

**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

NA / ND

Number of soil samples collected 4

Number of soil samples exceeding 915-1 1

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 100

-- Highest concentration of TPH (mg/kg) 2338.749

-- Highest concentration of SAR 2.11

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 26

#### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 1

Number of groundwater monitoring wells installed 1

Number of groundwater samples exceeding 915-1 1

Highest concentration of Benzene (µg/l) 1

Highest concentration of Toluene (µg/l) 1

Highest concentration of Ethylbenzene (µg/l) 1

Highest concentration of Xylene (µg/l) 1

Highest concentration of Methane (mg/l) 1

#### Surface Water

0 Number of surface water samples collected

0 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?

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

Volume of solid waste (cubic yards) 1

Volume of liquid waste (barrels) 1

☐ 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.

See COGCC Document # 402643873 documenting source removal activities via excavation.

#### 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.

Caerus is in the process of completing the chemical oxidation proposed in the previous Form 27 Document Number 402643873. Results will be presented in a Supplemental Form 27.

#### Soil Remediation Summary

☒ In Situ

No Bioremediation ( or enhanced bioremediation )

Yes Chemical oxidation

No Air sparge / Soil vapor extraction

☒ Ex Situ

No Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) 1

Name of Licensed Disposal Facility or COGCC Facility ID # 1

No      Natural Attenuation

       No      Other      \_\_\_\_\_

       Yes      Excavate and onsite remediation

       Yes      Land Treatment

       Yes      Bioremediation (or enhanced bioremediation)

       No      Chemical oxidation

       No      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.

Groundwater is estimated to be approximately 115 ft bgs, and is not expected to be encountered during any phase of this project.

## REMEDATION 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 

### 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:

On 6/17/2021, two five-point composite samples were collected from each of the three stockpiles. Laboratory results indicate stockpiles 1 and 2 are compliant with COGCC Table 910-1 standards with the exception of arsenic and pH. However, these arsenic and pH exceedances are within the background concentrations presented in COGCC Document # 402643873. As approved in Document Number 402730912, the clean overburden stockpiles were used to backfill excavation. During chemical oxidation treatment of the excavation, the impacted stockpiled was moved to allow access to the treatment area.

On 8/23/2021, one five-point composite sample was collected from the impacted stockpile. On 8/24/2021, two five-point composite samples were collected from the impacted stockpile. Laboratory results of the samples demonstrate compliance with COGCC Table 910-1 Concentrations Levels for TPH. Caerus requests approval from the COGCC to use the previously impacted stockpile to backfill the excavation.

Volume of E&P Waste (solid) in cubic yards 500

E&P waste (solid) description excavated soils with TPH exceedences

COGCC Disposal Facility ID #, if applicable: 0

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:

## REMEDATION COMPLETION REPORT

### REMEDATION 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?

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.

Any disturbance will be returned to the active working surface of the well pad for continued operation. When the site is decommissioned at a later date, it will be reclaimed in accordance with 1000 Series Rules. If the proposed site investigation and remediation identifies impacts requiring surface disturbance and remedial operations within the interim reclaim, additional reclamation details will be provided in the supplemental Form 27.

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?

## 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.

Actual Spill or Release date, or date of discovery.

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/26/2013

Proposed site investigation commencement. 07/26/2021

Proposed completion of site investigation. 09/30/2021

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/30/2021

Proposed date of completion of Remediation.

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**

This form is being submitted to request the use of excavated soil from the release area as backfill. Details of stockpile sampling activities are summarized in the Remediation Progress Report section of this form. Please reference the previous Form 27 Document Number 402730912 for the history of this project.

Laboratory reports of stockpile samples are attached to this form and summarize in the attached table.

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

Signed: Chris McKisson

Title: Sr. Project Manager

Submit Date: 09/09/2021

Email: chris.mckisson@confluence-cc.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: Steven Arauza

Date: 09/13/2021

Remediation Project Number: 7916

**Condition of Approval****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**

402805163	FORM 27-SUPPLEMENTAL-SUBMITTED
402806000	SITE INVESTIGATION REPORT

Total Attach: 2 Files

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

Environmental	Background arsenic and pH concentrations referenced by Operator can be found in project file under docs #402648859 and #402648853.  For future submittals, Operator shall reference documents previously-submitted to COGCC by COGCC document number.	09/13/2021
Environmental	Based on the information provided by the Operator for composite sampling results (doc #402806000), background sampling results (docs #402648859 and #402648853), and the fact that this project was previously approved for consideration under Table 910-1 (doc #402643873), the Operator's request to utilized the previously impacted soil for backfill is conditionally approved.	09/13/2021

Total: 2 comment(s)