

State of Colorado Oil and Gas Conservation Commission

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04/04/2022

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	Phone Numbers Phone: (970) 285-2925 Mobile: (970) 640-6919
Address: 1001 17TH STREET #1600		
City: DENVER	State: CO Zip: 80202	
Contact Person: Blair Rollins	Email: brollins@caerusoilandgas.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19036 Initial Form 27 Document #: 402725602

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: WELL	Facility ID: _____	API #: 045-07004	County Name: GARFIELD
Facility Name: SHAEFFER 12-8 (H12W)	Latitude: 39.461420	Longitude: -107.717070	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 12	Twp: 7S	Range: 93W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 323927	API #: _____	County Name: GARFIELD
Facility Name: SHAEFER-67S93W 12SENE	Latitude: 39.461420	Longitude: -107.717070	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 12	Twp: 7S	Range: 93W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications GC

Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

The water well is located 0.25 miles northeast of the location but the application appears to have never been finalized (Well # 0378486). Groundwater is demonstrated to be greater than 100 feet in the area based on water well construction information.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

<input type="checkbox"/> E&P Waste	<input checked="" type="checkbox"/> Other E&P Waste	<input type="checkbox"/> Non-E&P Waste
<input type="checkbox"/> Produced Water	<input type="checkbox"/> Workover Fluids	
<input type="checkbox"/> Oil	<input type="checkbox"/> Tank Bottoms	
<input type="checkbox"/> Condensate	<input type="checkbox"/> Pigging Waste	
<input type="checkbox"/> Drilling Fluids	<input type="checkbox"/> Rig Wash	
<input type="checkbox"/> Drill Cuttings	<input type="checkbox"/> Spent Filters	
	<input type="checkbox"/> Pit Bottoms	
<input checked="" type="checkbox"/> Other (as described by EPA) <u>No waste associated with this project has been identified</u>		

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	To be determined	Laboratory 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.

This form is being submitted to comply with COGCC Rule 911.a.(4). as initial notification for the abandonment of the Shaeffer 12-8 well and closure of Location ID 323927. At this time, no spill has been identified at the wellhead, former separator location, or former third party custody transfer location.

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):

As part of the cut and cap operations, Caerus will excavate the Shaeffer 12-8 wellhead. Caerus will visually inspect and field screen the base and sidewalls within the wellhead abandonment excavation. Caerus will also field screen the footprint of the former separator location and the former custody transfer location on the well pad. If any of the field screening areas indicate impacts to soil, the samples exhibiting the highest degree of impacts based on field screening will be submitted for laboratory analysis of the full list of constituents listed in COGCC Table 915-1. Any impacted soil will be segregated, stockpiled on site, and the extent of impacts will be investigated through additional excavation and confirmation soil sampling. Continued on "Additional Investigative Actions" section below.

Proposed Groundwater Sampling

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

Groundwater is not anticipated to be encountered during the proposed activities. In the event that groundwater is identified on location, Caerus will notify the COGCC and attempt to collect a representative sample for COGCC Table 915-1 analysis.

Proposed Surface Water Sampling

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

Surface water is not anticipated to be encountered during the proposed activities. In the event that surface water is identified on location, Caerus will notify the COGCC and attempt to collect a representative sample for COGCC Table 915-1 analysis.

Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan (summary):

Continued from "Proposed Soil Sampling": If no impacts are observed at the wellhead, separator, or former custody transfer point, one sample will be collected from the base of the excavation immediately adjacent to the well, one in the middle of the separator, and one adjacent to the custody transfer point. Samples will be submitted for laboratory analysis of the full list of constituents listed in COGCC Table 915-1.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 14

Number of soil samples exceeding 915-1 14

NA / ND

-- Highest concentration of TPH (mg/kg) 925

-- Highest concentration of SAR 3.27

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

BTEX > 915-1 No

Approximate areal extent (square feet) 500

Vertical Extent > 915-1 (in feet) 0

Groundwater

Number of groundwater samples collected 0

NA Highest concentration of Benzene (µg/l)

Was extent of groundwater contaminated delineated? Yes

NA Highest concentration of Toluene (µg/l)

Depth to groundwater (below ground surface, in feet) 100

NA Highest concentration of Ethylbenzene (µg/l)

Number of groundwater monitoring wells installed 0

NA Highest concentration of Xylene (µg/l)

Number of groundwater samples exceeding 915-1 0

NA Highest concentration of Methane (mg/l)

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)

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.

No source of impact has been identified to date for the proposed activities. If impacts are identified and confirmed through laboratory analysis, Caerus will provide this information to the COGCC with plans for source removal and disposition of waste.

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.

No source of impact has been identified to date for the proposed activities. If impacts are identified and confirmed through laboratory analysis, Caerus will provide this information to the COGCC with plans for source removal and disposition of waste.

Soil Remediation Summary

☐ In Situ

☐ Ex Situ

Bioremediation (or enhanced bioremediation)

Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards)

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID #

Natural Attenuation

Excavate and onsite remediation

Other

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.

Groundwater is not anticipated to be encountered during the proposed activities. In the event that groundwater is identified on location, Caerus will notify the COGCC and attempt to collect a representative sample for COGCC Table 915-1 analysis.

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 Q4 2021 REM update and NFA request

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? _____

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? 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.

The wellhead excavation area will be returned to grade with suitable material in preparation for final reclamation activities pursuant to the COGCC 1000 Series Rules.

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. _____

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). 07/30/2021

Proposed site investigation commencement. _____

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

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

Soil samples were not collected to characterize the stockpiled material because it was previously confirmed as impacted material and transported to Greenleaf Environmental Services outside DeBeque, Colorado for offsite disposal.

Based on the field investigation, sample results, and operator knowledge for produced water analysis all outlined in the attached report of work completed, Caerus requests closure and a no further action determination for Remediation Project Number 19036.

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

Signed: Blair Rollins

Title: EHS Specialist

Submit Date: 04/04/2022

Email: brollins@caerusoilandgas.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: 04/29/2022

Remediation Project Number: 19036

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

402879364	FORM 27-SUPPLEMENTAL-SUBMITTED
402879377	SITE INVESTIGATION REPORT

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

Environmental	Based on review of information presented it appears that no further action is necessary at this time, and COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if surface and/or ground water is found to be impacted, then further investigation and/or remediation activities will be required at the site. In addition, the non-working surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules including the establishment of vegetative cover on non-cropland and successful growth on cropland. Landowner must approve reclamation of cropland.	04/29/2022
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Total: 1 comment(s)