

# 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:

402921288

Receive Date:

01/10/2022

Report taken by:

Aaron Trujillo

## 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) 285-2925
City: DENVER State: CO Zip: 80202		Mobile: (970) 640-6919
Contact Person: Blair Rollins	Email: brollins@caerusoilandgas.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 9448 Initial Form 27 Document #: 2144788

#### 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: HISTORIC PIT CLOSURE

#### SITE INFORMATION

No Multiple Facilities

Facility Type: PIT	Facility ID: 112428	API #:	County Name: MESA
Facility Name: FEDERAL 36-2	Latitude: 39.229112	Longitude: -108.164726	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWSE	Sec: 36	Twp: 9S	Range: 97W 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? Yes

Is groundwater less than 20 feet below ground surface? Yes

## Other Potential Receptors within 1/4 mile

GIS online map service indicates there is 1 surface water receptor and no water wells within 1/4 mile of the pad. The surface water receptor is an ephemeral dry drainage feature.

## 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
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.

Please refer to documents associated with Remediation Project 9448.

### 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 ):

Caerus proposes to install soil borings within the area of previously identified impacts to determine extent of contamination and remediation effectiveness of the historic pit. Please refer to the attached Remediation Scope and Soil Boring Location map for specifics regarding the proposed sampling activities. Caerus will triangulate the two identified areas and collect samples from 4-8' bgs, 8-12' bgs, and 12-16' bgs to delineate any impacts still remaining at the site.

#### Proposed Groundwater Sampling

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

Groundwater wells within the area document groundwater depth around 400 feet below ground surface. In the event that groundwater is encountered in the soil borings, Caerus will attempt to collect a representative sample for analysis.

#### 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 42

Number of soil samples exceeding 915-1 42

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

Approximate areal extent (square feet) 130

-- Highest concentration of TPH (mg/kg) 336

-- Highest concentration of SAR 79.1

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 27

#### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 400`

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

NA Highest concentration of Benzene (µg/l)

NA Highest concentration of Toluene (µg/l)

NA Highest concentration of Ethylbenzene (µg/l)

NA Highest concentration of Xylene (µg/l)

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?

Background soil samples were collected in support of this project, and are included in the attached report of work completed.

☐ 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.

All investigation sample results will be provided to the COGCC within a Supplemental Form 27. In the event that contamination is identified following investigation activities, Caerus will propose a remediation strategy to remove the source of impacted material at the site.

#### 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.

All investigation sample results will be provided to the COGCC within a Supplemental Form 27. In the event that contamination is identified following investigation activities, Caerus will propose a remediation strategy to remove the source of impacted material at the site.

#### 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

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ 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.

Caerus does not anticipate encountering groundwater at the site based on historic site knowledge and adjacent groundwater well depth information. In the event that groundwater is encountered during the proposed field activities, Caerus will attempt to collect a representative groundwater sample for 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 Q3 2021 REM status update

### **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: \_\_\_\_\_

# REMEDATION COMPLETION REPORT

## REMEDATION 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.

Based on the landowner's request, Caerus will leave the site as a parking lot for current and future use of the location.

Is the described reclamation complete? Yes \_\_\_\_\_

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). 03/31/2021

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**

Failed 03/01/2022 Caerus is requesting relief from COA on Form 27 Doc #402901276 which requires compliance with Table 915-1. Caerus is requesting this relief as sampling and project details outlined in the attached report of work completed have been completed prior to January 15, 2022.

As outlined in the attached report of work completed, Caerus is requesting COGCC Rule 915.b. and 915.f. and NFA/closure of Remediation Project number project 9448.

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: 01/10/2022 \_\_\_\_\_

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: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 9448 \_\_\_\_\_

## **Condition of Approval**

**COA Type****Description**

	<p>Form 27 "Fail". Email to Operator submitted 3/1/2022:</p> <p>Remediation #9448, Rule 915.b Request, Document #402921288</p> <p>Trujillo - DNR, Aaron &lt;aaron.trujillo@state.co.us&gt; 11:34 AM (0 minutes ago) to Blair, Brett, Lindsey, Steven, Denise, Anna</p> <p>Good Morning Blair,</p> <p>This email is in regard to the Federal 36-2, 915.b request (Form 27 No. 402921288).</p> <p>At this time, due to various issues and inaccuracies identified below, the Form 27 and Rule 915.b request is being "failed".</p> <ul style="list-style-type: none"><li>• A proper reclamation plan as required per Rule 915.b has not been provided. Staff acknowledges the Operator's intent to seek a Surface Owner Variance from the 1004 requirements, however no 1001.c Surface Owner Variance has been approved for this Location. Remediation per Rule 913.h(1) needs to be documented in advance of a 1001.c Surface Owner Variance Request. If Operator intends to continue with a Rule 915.b request, then a reclamation plan (including species specific root zone information) will need to be submitted.</li><li>• Based on the analytical data and soil boring locations provided in the Entrada Report (doc #402921514), complete horizontal and vertical delineation of impacts has not been established, as required by Rule 913.b.(2). This remediation project is not eligible for closure without horizontal and vertical delineation of impacts. Additional sampling is required to delineate horizontal and vertical extents of impacts, per Rule 913.b.(2).</li><li>• This project includes a request to leave inorganics exceedances in situ within the root zone. Background data provided for SB-1 and SB-2 does not clearly establish background conditions for Soil Suitability for Reclamation COCs within the root zone. Additional sampling within areas outside of the disturbance area is required, in order to determine background conditions within the root zone per 915.e.(2)D.</li><li>• There are inaccuracies within the Form 27 that need to be addressed, including the statement that all soils meet Table 915-1 standards, and the statement that depth to ground water is less than 20 feet. Caerus shall ensure that future Form reporting will be accurate, and complete.</li></ul> <p>If Caerus plans to continue pursuing a Rule 915.b request, please notify myself and EPS Steven Arauza upon submission of the request, including the document number.</p> <p>Thank you,</p> <p>Aaron Trujillo</p> <p>NW Reclamation Specialist</p>
1 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**

402921288	FORM 27-SUPPLEMENTAL-SUBMITTED
402921514	SITE INVESTIGATION REPORT

Total Attach: 2 Files

**General Comments**

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Reclamation Specialist	This project includes a request to leave inorganics exceedances in situ within the root zone. Background data provided for SB-1 and SB-2 does not clearly establish background conditions for Soil Suitability for Reclamation COCs within the root zone. Additional sampling within areas outside of the disturbance area is required, in order to determine background conditions within the root zone per 915.e.(2)D.	03/01/2022
Reclamation Specialist	There are inaccuracies within the Form 27 that need to be addressed, including the statement that all soils meet Table 915-1 standards, and the statement that depth to ground water is less than 20 feet. Caerus shall ensure that future Form reporting will be accurate, and complete.	03/01/2022
Reclamation Specialist	A proper reclamation plan as required per Rule 915.b has not been provided. Staff acknowledges the Operator's intent to seek a Surface Owner Variance from the 1004 requirements, however no 1001.c Surface Owner Variance has been approved for this Location. Remediation per Rule 913.h(1) needs to be documented in advance of a 1001.c Surface Owner Variance Request. If Operator intends to continue with a Rule 915.b request, then a reclamation plan (including species specific root zone information) will need to be submitted.	02/18/2022
Reclamation Specialist	Based on the analytical data and soil boring locations provided in the Entrada Report (doc #402921514), complete horizontal and vertical delineation of impacts has not been established, as required by Rule 913.b.(2). This remediation project is not eligible for closure without horizontal and vertical delineation of impacts. Additional sampling is required to delineate horizontal and vertical extents of impacts, per Rule 913.b.(2).	02/18/2022
Environmental		02/07/2022
Environmental	<p>Per Rule 915.f, If Remediation is not completed by January 15, 2022, then the Operator will comply with the current version of Table 915-1.</p> <p>Attached report (doc #402921514) demonstrates effectiveness of SVE in remediation of documented TPH exceedances in soil. This remediation was complete prior to the January 15, 2022 deadline. The question of inorganics and arsenic exceedances remains.</p> <p>The attached report includes comparison of soil samples to Table 915-1 Residential and Protection of Groundwater SSLs and documents inorganics exceedances from 0-27' depth.</p>	02/07/2022
Environmental	Added Reclamation task to address Rule 915.b request.	02/07/2022

Total: 7 comment(s)