

**State of Colorado**  
**Energy & Carbon Management Commission**

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Document Number:  
403538366  
Receive Date:  
09/25/2023

Report taken by:  
Steven Arauza

**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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

**OPERATOR INFORMATION**

Name of Operator: <u>CAERUS PICEANCE LLC</u>	Operator No: <u>10456</u>	<b>Phone Numbers</b>
Address: <u>1001 17TH STREET #1600</u>		Phone: <u>(970) 902-3598</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>( )</u>
Contact Person: <u>Andy Verbonitz</u>	Email: <u>averbonitz@caerusoilandgas.com</u>	

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 32171 Initial Form 27 Document #: 403538366

**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: <u>LOCATION</u>	Facility ID: <u>324002</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>TBI PRODUCTION-67S96W 25SESW</u>	Latitude: <u>39.403720</u>	Longitude: <u>-108.058910</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESW</u>	Sec: <u>25</u>	Twp: <u>7S</u>	Range: <u>96W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>484742</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>PN25 tank release</u>	Latitude: <u>39.403533</u>	Longitude: <u>-108.058751</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SESW</u>	Sec: <u>25</u>	Twp: <u>7S</u>	Range: <u>96W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

## SITE CONDITIONS

General soil type - USCS Classifications SP

Most Sensitive Adjacent Land Use non-cropland,  
rangeland

Is domestic water well within 1/4 mile? No

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**

ephemeral dry unnamed tributary 315' S, aquatic sportfish management waters HPH, elk winter concentration area HPH, mule deer severe winter range HPH, mule deer winter concentration area HPH

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" 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 type="checkbox"/> Other (as described by EPA) | _____                                  |

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	undetermined	sampling and 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 document numbers 403457383 and 403466150 for initial actions taken in support of this project. As described in the attached Site Investigation Report, 1 soil sample below the point of release from 2' bgs and 2 horizontal delineation soil samples from 2' bgs were collected for full ECMC Table 915-1 laboratory analysis as part of the initial investigation. Additionally, 3 background soil samples were collected for ECMC Table 915-1 Soil Suitability for Reclamation and Metals laboratory analysis from native areas around the site.

## 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 ):

Following vertical and horizontal delineation and impacted soil removal, confirmation soil samples will be collected from the floor and sidewalls. An appropriate number of excavation floor and sidewall samples will be collected. Future confirmation soil samples will be analyzed for the approved suite of analytes set forth by applicable COAs.

### 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 <u>        6        </u>	-- Highest concentration of TPH (mg/kg) <u>        755.4        </u>
Number of soil samples exceeding 915-1 <u>        3        </u>	-- Highest concentration of SAR <u>        60.5        </u>
Was the areal and vertical extent of soil contamination delineated? <u>        No        </u>	BTEX > 915-1 <u>        Yes        </u>

Approximate areal extent (square feet) 2

Vertical Extent > 915-1 (in feet) 2

**Groundwater**

Number of groundwater samples collected 0

Highest concentration of Benzene (µg/l) \_\_\_\_\_

Was extent of groundwater contaminated delineated? No

Highest concentration of Toluene (µg/l) \_\_\_\_\_

Depth to groundwater (below ground surface, in feet) \_\_\_\_\_

Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_

Number of groundwater monitoring wells installed \_\_\_\_\_

Highest concentration of Xylene (µg/l) \_\_\_\_\_

Number of groundwater samples exceeding 915-1 \_\_\_\_\_

Highest concentration of Methane (mg/l) \_\_\_\_\_

**Surface Water**

0 Number of surface water samples collected

         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?

3 background soil samples were collected for ECMC Table 915-1 Soil Suitability for Reclamation and Metals laboratory analysis from native areas around the site for comparison.

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

Volume of solid waste (cubic yards) 2

Volume of liquid waste (barrels) 0

Is further site investigation required?

Following vertical and horizontal delineation and impacted soil removal, confirmation soil samples will be collected from the floor and sidewalls. An appropriate number of excavation floor and sidewall samples will be collected. Future confirmation soil samples will be analyzed for the approved suite of analytes set forth by applicable COAs.

**REMEDIAL ACTION PLAN**

**SOURCE REMOVAL SUMMARY**

Describe how source is to be removed.

Produced water tank will be repaired.

**REMEDIAL ACTION 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.

Impacted soils will be removed via hydrovac truck and/or heavy equipment and disposed of at a certified landfill or approved Caerus facility. Field screening via PID and an appropriate number of confirmation soil samples will be collected. Laboratory analysis will be completed to confirm successful removal of impacted soils.

**Soil Remediation Summary**

In Situ

Ex Situ

         Bioremediation ( or enhanced bioremediation )

         Yes          Excavate and offsite disposal

         Chemical oxidation

         If Yes: Estimated Volume (Cubic Yards) 2

         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

**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.

# 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 \_\_\_\_\_

## Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Per Rule 705.b, and in line with guidance laid out in the SBAP, Caerus has general liability insurance in the amount of \$1M, and Caerus has umbrella insurance, which sits over the general liability insurance in the amount of \$75M. The umbrella and general liability insurance covers property damage, bodily injury to third parties, and sudden or accidental pollution under a combined \$76M.

Operator anticipates the remaining cost for this project to be: \$ 50000

## 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:

Volume of E&P Waste (solid) in cubic yards 2

E&P waste (solid) description hydrocarbon impacted soil

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: Green Leaf Environmental

Volume of E&P Waste (liquid) in barrels 0

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.

Once remediation is complete, Caerus proposes to return the excavation to the active working surface grade for continued operation.

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? \_\_\_\_\_

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

## SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 11/30/2023

Proposed date of completion of Reclamation. 11/30/2023

## 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). 07/08/2023

Proposed site investigation commencement. 08/30/2023

Proposed completion of site investigation. 11/30/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/30/2023

Proposed date of completion of Remediation. 11/30/2023

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

Caerus believes a pathway to groundwater does not exist based on the following reasons and requests use of Table 915-1 Residential SSL cleanup concentrations for future sample comparison:  
1) Based on DWR data, groundwater was encountered in the closest residential water well 3,420 feet west of the Site at 18 feet bgs in water well receipt number 9501805, which is approximately 720 feet lower in elevation than the Site and next to an ephemeral drainage. The Site sits up high on the mesa, where topography keeps it well above groundwater.

Based on lab results from the initial investigation, and in consideration of the request to utilize Table 915-1 Residential SSL standards, Caerus requests a reduced analyte suite for the project to include Xylenes, TPH C6-C36, pH, SAR, and Arsenic only.

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

Signed: David Castro

Title: Senior Project Scientist

Submit Date: 09/25/2023

Email: dcastro@eagle-enviro.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: 10/18/2023

Remediation Project Number: 32171

## COA Type

## Description

	Operator shall collect soil samples from areas most likely to be impacted and shall collect an appropriate number of representative soil samples to delineate the horizontal and vertical extents of contamination, per Rule 915.e.(2).B.
	Per Rule 913.b.(2), the Operator will conduct sampling and analysis of soil, and groundwater--if encountered, to determine the horizontal and vertical extent of any contamination in excess of the cleanup concentrations in Table 915-1 for soil and groundwater. The Operator shall analyze samples for the approved analyte list and shall compare analytical results for site investigation samples to the Table 915-1 Residential Soil Screening Level Concentrations.
	Submit Supplemental eForm 19 to request closure of Spill/Release ID #484742. Supplemental report shall comply with outstanding COAs, indicate that work is proceeding under an approved eForm 27 and shall reference the Remediation Project number assigned upon approval of this report.
3 COAs	

## 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

403538366	FORM 27-INITIAL-SUBMITTED
403538930	SITE INVESTIGATION REPORT

Total Attach: 2 Files

## General Comments

### User Group

### Comment

### Comment Date

Environmental	Based on the analytical data provided for confirmation soil samples (doc #403538930), the Operator's request for a reduced analyte suite of total xylenes, TPH (GRO, DRO, ORO), pH, SAR, and arsenic only is conditionally approved.	10/18/2023
Environmental	Based on the groundwater depth assessment provided, the Operator's request to utilize the Table 915-1 Residential Soil Screening Levels is conditionally approved.	10/18/2023

Total: 2 comment(s)