

State of Colorado  
Energy & Carbon Management Commission

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Report taken by:

**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) 778-2314
City: DENVER State: CO Zip: 80202		Mobile: (970) 778-2314
Contact Person: Jake Janicek	Email: jjanicek@caerusoilandgas.com	

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 31234 Initial Form 27 Document #: 403386674

**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: Closure of Off-Location Flowline Facility IDs 464749 and 465039

**SITE INFORMATION**

Yes Multiple Facilities

Facility Type: OFF-LOCATION FLOWLINE Facility ID: 464749 API #: County Name: RIO BLANCO

Facility Name: Production Line 6SESW Latitude: 39.901638 Longitude: -108.212247

\*\* correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SESW Sec: 6 Twp: 2S Range: 96W Meridian: 6 Sensitive Area? Yes

Facility Type: OFF-LOCATION FLOWLINE Facility ID: 465039 API #: County Name: RIO BLANCO

Facility Name: Production Line 6SESW Latitude: 39.901612 Longitude: -108.212305

\*\* correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SESW Sec: 6 Twp: 2S Range: 96W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Rangeland-BLM

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**

NA

# 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)      No Impacts associated with this project have been identified.

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	SOILS	NA	Soil Sampling/Laboratory Analytical

## 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 reference State of Colorado Energy & Carbon Management Commission (ECMC) Form 27 Document Number (DN) 403172024 for results associated with the off-location flowline sampling completed at the U S A PICEANCE CREEK F24-6G (Facility IDs 464749 and 465039). These two off-location flowline Facility IDs identified under 464749 and 465039 in the ECMC database are associated with the same off-location flowline.

On October 9, 2023, a total of five confirmation soil samples were collected from five off-location flowline locations. Prior to confirmation sampling, the areas surrounding each off-location flowline was previously excavated in order to safely access and cut and cap the locations. Each of the five confirmation soil samples were collected from the base of each excavation immediately beneath each cut and capped flowline. Total depths of the five base confirmation soil samples collected ranged from 4 feet below ground surface (bgs) to 6 feet bgs. In addition, all sidewalls from each off-location flowline excavation area were field screened. As no impacts were observed, no sidewall samples were submitted. The five base samples were submitted for analysis of ECMC full Table 915-1. The confirmation soil sample locations can be referenced in Figure 2 of the attached report of work completed (ROWC).

Please see the attached report ROWC for further details regarding field soil screening and collection, along with a discussion of the analytical results.

## 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 ):

### 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

Number of soil samples collected 5  
Number of soil samples exceeding 915-1 5  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 600

### NA / ND

-- Highest concentration of TPH (mg/kg) 52.4  
-- Highest concentration of SAR 6.32  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 6

### Groundwater

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) \_\_\_\_\_  
Number of groundwater monitoring wells installed \_\_\_\_\_  
Number of groundwater samples exceeding 915-1 \_\_\_\_\_

\_\_\_\_ Highest concentration of Benzene (µg/l) \_\_\_\_\_  
\_\_\_\_ Highest concentration of Toluene (µg/l) \_\_\_\_\_  
\_\_\_\_ Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_  
\_\_\_\_ Highest concentration of Xylene (µg/l) \_\_\_\_\_  
\_\_\_\_ 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?

Please reference DN 403172024 for sample details and analytical results of previously collected site-specific background soil samples at the U S A-PICEANCE CREEK-62S96W/6SESW (Location ID: 314914) pad location (Site).

Five site-specific background soil samples were collected from three hand augered boring locations to the south and southwest directions of the Site from comparable, nearby, non-impacted, native soil, per Rule 915.e.(2). D. All site-specific soil samples were submitted for laboratory analysis of ECMC Table 915-1 metals, boron (water soluble), pH, sodium adsorption ratio (SAR), and electrical conductance (EC).

Please see the attached ROWC for additional information regarding the Site specific background soil sample collection and analytical results.

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.

There is no source. The purpose of this form submittal is to present administrative closure sampling of off-location flowline Facility IDs 464749 and 465039. Confirmation soil samples were collected in order to comply with ECMC Rule 913.c.(9). Soil samples collected from three of the five off-flowline locations prior to activities associated with facility decommissioning and plugging and abandoning can be referenced in DN 403172024. The re-sampling of three off-location flowlines at the Site along with the southern and western off-location flowlines and associated field screening post cut and cap confirmed no source associated with the decommissioning of the flowline is present.

### REMEDICATION 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.

Remediation is not necessary associated with the closure request of cut and capped off-location flowlines under Facility IDs 464749 and 465039.

Per ECMC Table 915-1, Footnote 1, Caerus requests relief of arsenic as a contaminant of concern (COC). The arsenic concentrations in the confirmation soil samples ranged from 3.21 milligrams per kilogram (mg/kg) to 4.53 mg/kg which is within site-specific background sample 20231009-XTBG-(PCU F24-6G-S)@1 which had a concentration of 5.74 mg/kg.

Per ECMC Table 915-1, Footnote 1, Caerus requests relief of chromium (VI) as a COC. The chromium (VI) concentrations in the confirmation soil samples ranged from 0.256 mg/kg to 0.315 mg/kg which is within site-specific background sample 20231009-XTBG-(PCU F24-6G-E)@1 which had a concentration of 0.345 mg/kg.

Per ECMC Table 915-1, Footnote 1, Caerus requests relief of SAR as a COC. The SAR concentration of confirmation soil sample 20231009-PCU F24-6G-(FC-FL-V2)@6 (6.32) is within site-specific background sample 20220823-F24-6G (BG-SE) @ 12 which had a concentration of 11.0.

See "Operator Comments" section for continued discussion.

### 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

\_\_\_\_\_ 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

Closure of Off-Location Flowline Facility IDs 464749 and 465039 and RPN 31234

### 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: \$ 0 \_\_\_\_\_

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

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.

All excavations were backfilled to match the surrounding native grade.

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 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. \_\_\_\_\_

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). 09/01/2023

Proposed site investigation commencement. 09/01/2023

Proposed completion of site investigation. 10/09/2023

### 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**

Per ECMC Rule 915.e.(2).C (site-specific waste characterization) Caerus requests relief of pH as a COC. The pH result (5.86) standard unit (SU) in produced water sample 20221201-PCU T14X-13G(PW) collected from produced water representative of the waste stream that would have impacted the soils associated with the remediation project, was less than all confirmation soil pH results collected to date ranging from 8.48 SU to 9.48 SU. This indicates that the constituent is not found within the above-mentioned waste stream at the levels indicative of the impacted area and that the pH values are not associated with oil and gas activities. Although the produced water sample mentioned above was not collected from the Site production well U S A-PICEANCE CREEK F24-6G (API 103-07542) as the well is plugged and abandoned, the produced water sample was collected from production well PICEANCE CREEK UNIT #T14X-13G (Facility ID: 259787) (API 103-10120) which also produces from the same geologic formation (Wasatch) as former production well U S A-PICEANCE CREEK F24-6G. Therefore, the pH value from production well PICEANCE CREEK UNIT #T14X-13G should be considered representative of the waste steam of U S A-PICEANCE CREEK F24-6G (API 103-07542). See Figure 9 attached in the ROWC to reference proximity of locations with respect to one another.

Caerus believes that a pathway to groundwater from soil identified beneath the five off-location flowline locations does not exist and requests relief concerning this subject per ECMC Table 915-1 Footnote 7 and due to the following reason.

1) At no time when completing previous facility decommissioning investigative activities or recent off-location flowline activities at the Site was groundwater, saturated soils, infiltrating, or pooling observed associated with this remediation project.

Given these observations and facts concerning groundwater in the immediate vicinity of the project site, Caerus requests that the Director make a determination to evaluate the remediation success of this project using the Residential Soil Screening Level Concentrations (RSSLCs) listed in Table 915-1. When considering the remaining exceedances of barium, selenium, and zinc with respect to the RSSLCs, all concentrations are below the applicable criteria.

Caerus requests that the Director assign a "No Further Action" designation to RPN 31234 which is associated Off-Location Flowline Facility IDs 464749 and 465039 associated with the U S A-PICEANCE CREEK-62S96W/6SESW (Location ID: 314914) pad location (Site) also known as the U S A-PICEANCE CREEK F24-6G.

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

Signed: Jake Janicek \_\_\_\_\_

Title: EHS Specialist \_\_\_\_\_

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

Email: jjanicek@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: 31234

**COA Type**

**Description**

0 COA	
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**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**

403632429	SITE INVESTIGATION REPORT
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Total Attach: 1 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)