

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 ECOM 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
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 #: 23230 Initial Form 27 Document #: 402982977

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: No Further Action (NFA) Designation to Remediation Project Number (RPN) 23230

SITE INFORMATION

No Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 481405	API #: _____	County Name: RIO BLANCO
Facility Name: YCF 35-33-1	Latitude: 40.010160	Longitude: -108.356397	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSE	Sec: 35	Twp: 1N	Range: 98W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications OH Most Sensitive Adjacent Land Use 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

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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
No	SOILS	90x65x10	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.

Please see documents associated with ECMC RPN 23230 for a list of activities completed prior to third quarter (3Q) of 2024.

During 3Q 2024, impacts to soil/bedrock identified previously during potholing and drilling assessments [reference Document Numbers (DNs) 403036861, 403089339, and 403475435] were addressed via mechanical excavation following the removal of all associated aboveground and belowground infrastructure in accordance with ECMC Rule 913.b. Approximately 4,028 cubic yards (cy) of material were removed using an excavator operated by Complete Valley Services, LLC of Grand Junction, Colorado between June 19 and August 6, 2024. A total of 15 soil samples were collected from the base and sidewalls of the excavation extents to confirm successful removal of impacted soil. Excavation activities were guided by regular bedrock screening as the excavation was advanced through visual and olfactory inspection to determine the presence or absence of hydrocarbon odors and/or staining. Additionally, the bedrock head space of each sample was screened using a photo-ionization detector (PID) to monitor for the presence or absence of volatile organic compounds (VOCs), indicating if the bedrock was impacted. All removed material was placed in a bermed containment on the southern portion of the pad for the purpose of future land farming. The landfarm footprint was eventually divided into 11 cells with volumes ranging from 70 cy to 490 cy. From each cell, a five-point composite sample was collected. All samples collected during 3Q 2024 were submitted for laboratory analysis of an approved analytical suite (ECMC DN 403789647) and evaluated under ECMC Table 915-1 Residential Soil Screening Level Concentrations (RSSLCs).

Continued in "Operator Comments" section.

The attached Report of Work Completed (ROWC) summarizes all activities completed during 3Q 2024.

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 29

Number of soil samples exceeding 915-1 6

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

Approximate areal extent (square feet) 5850

NA / ND

-- Highest concentration of TPH (mg/kg) 145.1
 01

-- Highest concentration of SAR 13

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 8

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 see ECMC DN 403475435 for this information.

On September 25 and 26, 2024, four site-specific background borings were completed within the Rentsac channery loam mapped soil unit as illustrated on the ECMC GIS Online database to total depths ranging between 15 feet bgs to 20 feet bgs. These borings were advanced to further understand the naturally occurring SAR concentrations in the surficial sediments/bedrock specifically within the intervals of previously identified exceedances in accordance with ECMC Rule 915.e.(2). D. The analytical results are summarized in Table 1 of the attached ROWC.

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.

The source was the off-load line from tanks to the pump which froze and expanded the threads at the Y-Strainer. The damaged piping was replaced/repared to prevent future releases.

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 further remediation is necessary associated RPN 23230.

All remediation associated with the impacts excavated beneath and surrounding the secondary containment under RPN 23230 has been completed. All excavated material removed (approximately 4,028 cy) during this remediation effort has been verified as compliant with ECMC Table 915-1 Cleanup Levels or is within site-specific background concentrations at the Site.

Soil Remediation Summary

In Situ

- _____ Bioremediation (or enhanced bioremediation)
- _____ Chemical oxidation
- _____ Air sparge / Soil vapor extraction
- _____ Natural Attenuation
- _____ Other _____

Ex Situ

- _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____
- _____ Name of Licensed Disposal Facility or ECMC Facility ID # _____
- Yes _____ Excavate and onsite remediation
- Yes _____ Land Treatment
- No _____ 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other NFA Designation to RPN 23230

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 2024 Rem Status Update

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? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

None

Volume of E&P Waste (solid) in cubic yards 0

E&P waste (solid) description _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: _____

Volume of E&P Waste (liquid) in barrels 45

E&P waste (liquid) description impacted soil mixed with hydrovac rinsate

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Greenleaf Environmental Services

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 ECMC 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 excavation footprint will be backfilled to match existing grade in accordance with the ECMC 1000-Series Reclamation Requirements.

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. 12/17/2021

Actual Spill or Release date, or date of discovery. 12/17/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/14/2022

Proposed site investigation commencement. 06/30/2022

Proposed completion of site investigation. 05/31/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/01/2024

Proposed date of completion of Remediation. 08/06/2024

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

Continued from "Initial Actions Summary" section:

On September 25 and 26, 2024, four site-specific background borings were completed within the Rentsac channery loan mapped soil unit as illustrated on the ECMC GIS Online database to total depths ranging between 15 feet bgs to 20 feet bgs. These borings were advanced to further understand the naturally occurring SAR concentrations in the surficial sediments/bedrock specifically within the intervals of previously identified exceedances in accordance with ECMC Rule 915.e.(2). D. In total, 15 bedrock samples were collected from the four site-specific background borings and submitted for analysis of ECMC Table 915-1 metals, SAR, EC, pH, and boron (hot water soluble).

The analytical results of the 29 confirmation soil samples collected from the excavation footprint and of the excavated bedrock stockpiled for landfarming indicated seven SAR exceedances that ranged from 6.19 in stockpile composite sample 20240723-YCF 35-33-1-(STOCK06) to 13.9 in excavation confirmation soil sample 20240624-YCF 35-33-1-(NW01)@7. The SAR concentration of 13.9 in excavation confirmation soil sample 20240624-YCF 35-33-1-(NW01)@7 was addressed on August 6, 2024 via additional soil removal and a sample was recollected to confirm the removal. The recollected sample, 20240806-YCF 35-33-1-(NW01)@7-7.5, indicated a SAR concentration of 8.56 after the additional 2 feet was laterally removed along this portion of the north bounding sidewall. Following this, the exceeding SAR concentrations of the confirmation samples ranged from 6.19 to 13.0 in samples 20240723-YCF 35-33-1-(STOCK06) and 20240626-YCF-35-33-1(EW01)@7, respectively. In accordance with ECMC Table 915-1, Footnote 1 these documented exceedances are within the SAR concentrations observed in recently collected site-specific background bedrock samples 20240925-XTBG-(YCF 35-33-1-SB02) @ 2-5 (17.8), 20240925-XTBG-(YCF 35-33-1-SB03) @ 2-5 (21.6), and 20240926-XTBG-(YCF 35-33-1-SB04) @ 2-5 (25.7) and previously collected site-specific confirmation soil sample 20230512-YCFBG-(YCF35-33-1-NW)@3-5 that was collected during the 2023 drilling investigation (DN 403475435). These referenced site-specific background bedrock sample locations and associated data is summarized on Figures 4 and 7, and included on Table 1 of the associated ROWC. The laboratory report is also included in Enclosure C of the ROWC.

Caerus requests the Director for approval to use all of the excavated soil/bedrock material (approximately 4,028 cy) to backfill the open excavation footprint, as analytical results indicate all analytes are within ECMC Table 915-1 RSSLCs or site-specific background concentrations. The stockpile soil analytical exceedances compared to RSSLCs are shown on Figure 6.

Based on the analytical data herein and the attached ROWC, all previously identified ECMC Table 915-1 RSSLCs and CC exceedances associated with the produced water release at the Site have been mechanically removed and verified compliant through confirmation sampling analytical results or are within site-specific background concentrations at the Site per ECMC Table 915-1, Footnote 1. Caerus requests the Director to assign a "No Further Action" designation and closure of RPN 23230.

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 ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: _____

Date: _____

Remediation Project Number: 23230

COA Type

Description

0 COA	
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ATTACHMENT 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

403958021	ANALYTICAL RESULTS
403958024	ANALYTICAL RESULTS
403958027	ANALYTICAL RESULTS
403958028	ANALYTICAL RESULTS
403958030	ANALYTICAL RESULTS
403958031	ANALYTICAL RESULTS
403958035	ANALYTICAL RESULTS
403958036	ANALYTICAL RESULTS
403958039	ANALYTICAL RESULTS
403958041	ANALYTICAL RESULTS

403958042	ANALYTICAL RESULTS
403958095	ANALYTICAL RESULTS
403958618	REMEDATION PROGRESS REPORT

Total Attach: 13 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)