

State of Colorado  
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
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Document Number:

403989305

Receive Date:

12/05/2024

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 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) 640-6919
City: DENVER	State: CO	Zip: 80202
Contact Person: Blair Rollins	Email: brollins@qb-energy.com	Mobile: (970) 640-6919

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 26000 Initial Form 27 Document #: 403213241

## 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

No Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 482680	API #: _____	County Name: GARFIELD
Facility Name: Long Ridge D21 595 Gas line failure	Latitude: 39.606183	Longitude: -108.071958	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 20	Twp: 5S	Range: 95W Meridian: 6 Sensitive Area? No

## SITE CONDITIONS

General soil type - USCS Classifications GM Most Sensitive Adjacent Land Use Non-cropland

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**

None

**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
Yes	SOILS	To be determined	Soil 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.

On August 2, 2022, a pressure test of the recently acquired Long Ridge 10" Pipeline revealed a pre-existing failure point. An unknown volume of produced water was released during operation of the pipeline by the previous operator. The release was reported via Energy & Carbon Management (ECMC) Form 19 Document 403126252 to open Spill/Release Point ID 482680. ECMC Form 27 Document 403213241 was later submitted to open Remediation Project 26000.

**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 ):

Soil samples will be collected as needed to delineate the vertical and horizontal extent of soil impacts. Background samples may be collected to characterize native levels of inorganic constituents at the Location. See the attached Report of Work Completed (ROWC) for additional details.

**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 ):

Downgradient spring sampling has been completed as part of the monitoring of this project for the last eight consecutive quarters. Please refer to the attached report of work completed to outline results from the proposed spring sampling.

**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 0

Number of soil samples exceeding 915-1 0

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 1500

**Groundwater**

Number of groundwater samples collected 14

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 0

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

**Surface Water**

2 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.

**NA / ND**

Highest concentration of TPH (mg/kg)

Highest concentration of SAR

BTEX &gt; 915-1 Yes

Vertical Extent &gt; 915-1 (in feet) 8

ND Highest concentration of Benzene (µg/l)

ND Highest concentration of Toluene (µg/l)

ND Highest concentration of Ethylbenzene (µg/l)

ND Highest concentration of Xylene (µg/l)

NA Highest concentration of Methane (mg/l)

**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?

Additional delineation will be required to determine the vertical and horizontal extent of contamination associated with the project.

**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.

QB is in the process of determining the extent of contamination associated with the release. Once the extent of impacts is determined, QB will provide a remediation strategy for ECMC review and approval on a Supplemental Form 27.

**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.

On August 8, 2022, initial sampling was performed to characterize the point of release (POR). Prior to sampling activities, the relevant section of pipeline had been excavated to 8 feet below ground surface (bgs), and the POR was exposed. Five soil samples were collected from the excavation: one from each sidewall and one from beneath the POR. Analytical results of soil samples indicate various organic and inorganic exceedances remain undelineated vertically and horizontally.

On August 10, 2022, a spring and drainage investigation of the canyons surrounding the immediate area was conducted. Two springs (SP01 and SP02) were identified. Both springs were dry, but a surface water sample was collected from a stagnant pool located downgradient of SP02. An aerial assessment of nearby drainages was also completed. Additional sampling of the springs and aerial assessment of the drainages were completed on November 2, 2022.

On November 17, 2022, the ECMC approved the request to proceed under Table 915-1 Residential Soil Screening Levels (RSSLs) via Form 27 Document 403213241.

Subsequent sampling of the springs and aerial assessments of the nearby drainages were completed four times in 2023, and three times in 2024. Analytical results of surface water sampling indicate compliance with ECMC Table 915-1 allowable limits for all constituents of concern.

Based on the approved request of RSSL soil standards in 2022 and analytical data from eight quarters of water samples which indicate no organic impacts to groundwater, QB requests to discontinue spring sampling.

QB is in the process of determining the extent of soil contamination associated with the project. Once the extent of contamination is defined, QB will prepare and submit a plan for source removal to the ECMC for review and approval. See the attached ROWC for site investigation details to date.

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

\_\_\_\_\_ 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.

If groundwater is encountered during delineation activities, QB will attempt to collect a sample for characterization.

## 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 Form 27 REM update 2024 Q3 and Q4

### 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, QB Energy has general liability insurance in the amount of \$5M, and QB Energy has umbrella insurance, which sits over the general liability insurance in the amount of \$65M. The umbrella and general liability insurance covers property damage, bodily injury to third parties, and sudden or accidental pollution under a combined \$70M.

Operator anticipates the remaining cost for this project to be: \$ 100000

### 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

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

E&P waste (liquid) description

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility:

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No ☐

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?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards?

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.

All disturbance areas will be returned to grade with suitable material in preparation for final reclamation activities pursuant to the ECMC 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? \_\_\_\_\_

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. 08/02/2022

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/08/2022

Proposed site investigation commencement. 08/08/2022

Proposed completion of site investigation. 08/01/2025

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/08/2022

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**

This form has been submitted to provide a 2024 Q3 and Q4 semi-annual status update to Remediation Project 26000 and request to discontinue additional spring sampling based on consistently compliant analytical results from eight quarters. See the attached ROWC for details.

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

Signed: Blair Rollins

Title: Environmental Specialist

Submit Date: 12/05/2024

Email: brollins@qb-energy.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: Steven Arauza

Date: 01/09/2025

Remediation Project Number: 26000

**COA Type****Description**

0 COA	

**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**

403989305	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403989316	ANALYTICAL RESULTS
403989317	ANALYTICAL RESULTS
404016171	MONITORING REPORT
404052837	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 5 Files

**General Comments****User Group****Comment****Comment Date**

Environmental	Comply with outstanding COAs.	01/09/2025
Environmental	Based on the information provided for water samples over the past 8 quarters, the Operator's request to discontinue additional spring sampling is conditionally approved.	01/09/2025

Total: 2 comment(s)