

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:  
404106074  
Receive Date:  
06/16/2025

Report taken by:  
John Heil

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 Phone: (720) 830-7549 Mobile: ( )
Address: 1001 17TH STREET #1600		
City: DENVER	State: CO	Zip: 80202
Contact Person: Derek Horn	Email: dhorn@qb-energy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38083 Initial Form 27 Document #: 403912304

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: SPILL OR RELEASE	Facility ID: 487551	API #: _____	County Name: RIO BLANCO
Facility Name: RNPU 196-19B1 BOP Release	Latitude: 39.954938	Longitude: -108.201445	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENE	Sec: 19	Twp: 1S	Range: 96W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Non-cropland  
Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes  
Is groundwater less than 20 feet below ground surface? No

**Other Potential Receptors within 1/4 mile**

Elk severe winter range (HPH) approximately 140' E, unnamed intermittent drainage approximately 1250' E

**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	Undetermined	Sampling, 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 number 403885621 (Form 19 Supplemental) and document number 403912304 (Form 27 Initial) for initial actions taken in support of this project. As described in the attached Site Investigation Report, On August 5, 2024, one soil sample was collected from the POR at a depth of approximately 0.5 feet bgs. The sample was transported to Pace Analytical (Pace) under a strict chain-of-custody protocol and analyzed for the ECMC full table 915-1. Additionally, four (4) background soil samples were collected off location in native soil outside interim reclamation areas. The samples were transported to Pace under a strict chain-of-custody protocol and analyzed for the following constituents: 915-1 Metals and Soil Suitability. On January 28th and January 29, 2025, seven (7) soil samples were collected from the base of the onsite excavation from a depth of approximately 0.5 feet below ground surface (bgs). One (1) 10-point composite sample was also collected from the onsite stockpile. All eight (8) samples were submitted to Elevation Diagnostics (Elevation) for analysis of a reduced analytical suite of EC, SAR, arsenic, and boron. On February 12, 2025, four soil borings were advanced at the base of the excavation to delineate impacts vertically. Three soil samples were collected from each boring, at depths ranging from 1.5 feet to 2.5 feet bgs. Additionally, a source water sample from the onsite tank was collected. All twelve (12) soil samples were submitted to Elevation for a reduced analytical suite of EC, SAR, arsenic, and boron, while the source water sample was submitted to Elevation for analysis of arsenic only.

**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 ):

Based on all data, additional soil assessments are necessary to determine the extent of the impacts. It is proposed that three soil borings be completed in the vicinity of soil borings SB01, SB02, and SB03. These soil borings will reach a depth of 5 feet or more to thoroughly assess soil impacts.

**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 ):

One (1) source water sample was collected from an onsite tank for comparison of arsenic at the Site.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 21

Number of soil samples exceeding 915-1 21

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

Approximate areal extent (square feet) 4690

### NA / ND

-- Highest concentration of TPH (mg/kg) 165

-- Highest concentration of SAR 27.9

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 2

### Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

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?

Four (4) background soil samples were collected off location in native soil outside interim reclamation areas and analyzed for the following constituents: 915-1 Metals and Soil Suitability.

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?

Based on all data, additional soil assessments are necessary to determine the extent of the impacts. It is proposed that three soil borings be completed in the vicinity of soil borings SB01, SB02, and SB03. These soil borings will reach a depth of 5 feet or more to thoroughly assess soil impacts.

## 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.

Approximately 60 bbls of produced water were recovered from the cellar and pad surface. No liquid left the Site and clean-up operations are ongoing. QB is in the process of determining the extent of contamination and will provide these results to the ECOM to include a plan for source removal in supplemental documentation.

### 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.

Following additional soil assessment activities, a remedial approach will be proposed in a forthcoming Form 27. Remedial approach may include in-situ or ex-situ approach based on assessment results.

### 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.

# 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 Q1 2025 REM 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, 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: \$ 50000

## 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

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.

Once remediation is complete, QB Energy 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. \_\_\_\_\_

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. 08/02/2024

Actual Spill or Release date, or date of discovery. 08/02/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/05/2024

Proposed site investigation commencement. 09/16/2024

Proposed completion of site investigation. 05/30/2025

### 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**

QB is requesting for a reduced analytical suite to include only EC, and SAR, based on the analytical data from the excavation and source water sampling activities detailed below:

•On August 5, 2024, one soil sample (RNPU 196-19B-(POR)@0.5) was collected from the POR at a depth of approximately 0.5 feet bgs and analyzed for ECMC full List 915-1 constituents. Electrical conductivity (EC), sodium absorption ratio (SAR), arsenic and boron exceeded ECMC 915-1 standards. A reduced analytical suite of EC, SAR, arsenic, and boron only was approved by the ECMC for soil samples moving forward.

•On January 28th and January 29, 2025, following the removal of impacted soil, seven (7) soil samples were collected from the base of the excavation at a depth of 0.5 feet bgs. Based on January 28th and January 29, 2025, analytical results, boron was below ECMC standards for all soil samples at the excavated base.

•On February 12, 2025, a source water sample from the onsite produced water tank was collected for comparison to arsenic at the Site. Based on the analytical results from February 12, 2025, source water sampling, the released fluid has an arsenic value of 0.00647 mg/L. Therefore, all arsenic exceedances appear to be naturally occurring and not associated with oil and gas operations.

Remediation strategies are currently being evaluated based on the additional assessment data.

This form was originally submitted on 02/26/2025. Following the data integrity NTO issued on 04/08/2025, this form was returned to draft on 06/09/2025, and is now being resubmitted on 06/16/2025 with secured laboratory reports included.

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

Signed: Derek Horn

Title: EHS Specialist

Submit Date: 06/16/2025

Email: dhorn@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: John Heil

Date: 07/02/2025

Remediation Project Number: 38083

**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**

404106074	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404107801	SITE INVESTIGATION PLAN
404243023	ANALYTICAL RESULTS
404243024	ANALYTICAL RESULTS
404243025	ANALYTICAL RESULTS
404266090	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 6 Files

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

Environmental	ECMC approves the request for a reduced analytical suite to include only EC, and SAR.	07/02/2025
---------------	---	------------

Total: 1 comment(s)