

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:

404031989

Receive Date:

Report taken by:

## 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 ECMC 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: (720) 830-7549
City: DENVER	State: CO	Zip: 80202
Contact Person: Derek Horn	Email: dhorn@qb-energy.com	Mobile: (720) 830-7549

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: Initial Form 27 Document #: 404031989

## 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: 488556	API #:	County Name: GARFIELD
Facility Name: L3E Hammer Union	Latitude: 39.473698	Longitude: -107.660532	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWSW	Sec: 3	Twp: 7S	Range: 92W
Meridian: 6	Sensitive Area? Yes		

## SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? Yes

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**

Freshwater Emergent Wetland 82 feet W, Freshwater Pond 240 feet SW, Unnamed stream 1056 feet N, Aquatic Native Species Conservation Waters 1512 feet SW, Elk Severe Winter Range (HPH), Mule Deer Severe Winter Range (HPH), Occupied Bldg 667 feet SW

**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 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 number 404008376 (Initial Form 19) and document number 404008376 (Supplemental Form 19) for initial actions taken in support of this project. As described in the attached Site Investigation report, on December 2, 2024, one (1) soil sample was collected at the POR at a depth of approximately 0.5 feet bgs, as part of the initial investigation. Additionally, on December 4, 2024, two (2) background soil samples were collected off location in native soil at depths ranging from 0.5 - 1.0 feet bgs for comparison to soil suitability and metals at 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 ):

Based on the assessment data, additional soil samples are necessary to define the extent of impacts vertically and laterally. It is proposed that six soil borings be completed, one in the vicinity of the POR, four around the POR in all cardinal directions, and one offsite to assess soil suitability for reclamation standards at depth. The soil borings will be completed to a depth of 5 feet or greater to assess soil impacts. 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**

Number of soil samples collected 3

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 1

### **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

### **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.

### **NA / ND**

-- Highest concentration of TPH (mg/kg) 571

-- Highest concentration of SAR 17

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 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)

## **OTHER INVESTIGATION INFORMATION**

☐ Were impacts to adjacent property or offsite impacts identified?

☒ Were background samples collected as part of this site investigation?

On December 4, 2024 two (2) background soil samples were collected off location in native soil at depths ranging from 0.5 to 1 feet bgs. The two (2) soil samples were analyzed for Table 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 the assessment data, additional soil samples are necessary to define the extent of impacts vertically and laterally. It is proposed that six soil borings be completed, one in the vicinity of the POR, four around the POR in all cardinal directions, and one offsite to assess soil suitability for reclamation standards at depth. The soil borings will be completed to a depth of 5 feet or greater to assess soil impacts. 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.

The line was isolated and shut in.

### **REMEDATION 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

☐ Ex Situ

Bioremediation ( or enhanced bioremediation )

Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

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

### 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: \$

### 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:

# 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. 11/26/2024

Actual Spill or Release date, or date of discovery. 11/23/2024

## **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 12/02/2024

Proposed site investigation commencement. 02/28/2025

Proposed completion of site investigation. 10/23/2025

## **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 Energy believes a pathway to groundwater does not exist based on the following reasons and requests use of Table 915-1 Residential Soil Screening. Level cleanup concentrations for future soil sample comparison:

- 1) According to data from the Division of Water Resources (DWR), the nearest water well (Permit # 64881) with construction data is located approximately 739 feet Northeast of the point of release (POR) and approximately 40 feet lower in elevation. The construction report indicates the well was drilled to a maximum depth of 68 feet below ground surface (bgs) with groundwater encountered at 20 feet bgs. Depth to water is estimated to be between 50 – 100 feet bgs.
- 2) Source identified and repaired.
- 3) The nearest surface water feature is an unnamed stream, approximately 1056 feet North of the release and is approximately 72 feet lower in elevation.

Based on lab results from the initial investigation, and in consideration of the request to utilize Table 915-1 Residential Soil Screening Level standards, QB Energy requests a reduced soil sample analysis suite for the project to include TPH-GRO, TPH-DRO, TPH-ORO, Ethylbenzene, Total Xylenes, 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: Derek Horn

Title: EHS Specialist

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

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: \_\_\_\_\_

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

Remediation Project Number: \_\_\_\_\_

**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**

404032170	ANALYTICAL RESULTS
404032171	ANALYTICAL RESULTS
404042307	SITE INVESTIGATION PLAN

Total Attach: 3 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)