

State of Colorado
Energy & Carbon Management Commission

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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 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		Mobile: (720) 830-7549
Contact Person: Derek Horn	Email: dhorn@qb-energy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38041 Initial Form 27 Document #: 403958218

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: PIT	Facility ID: 112351	API #: _____	County Name: MESA
Facility Name: DEBEQUE 8-13	Latitude: 39.282050	Longitude: -108.249129	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 8	Twp: 9S	Range: 97W Meridian: 6 Sensitive Area? Yes
Facility Type: LOCATION	Facility ID: 312645	API #: _____	County Name: MESA
Facility Name: DEBEQUE-69S97W 8CSW	Latitude: 39.283900	Longitude: -108.246849	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: CSW	Sec: 8	Twp: 9S	Range: 97W 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? 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

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input checked="" type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input checked="" type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | _____ |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	To be determined	Field Investigation and 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.

This form is being submitted to serve as the initial notification to abandon the pit identified by ECMC as Facility ID #112351 upon agency approval.

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 in accordance with the ECMC Rules in the 900 series. The sample areas of interest based on early inspection reports (Wells1249098 and Wells221091) will target the areas immediately adjacent to the tank. Grab samples will be collected from soil vertically below these areas and submitted for laboratory analysis of all analytes listed in ECMC Table 915-1. Please see the attached site diagram for exact locations where samples are expected to be collected from. See referenced inspection reports in the attachments.

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

<p>Soil</p> <p>Number of soil samples collected <u>28</u></p> <p>Number of soil samples exceeding 915-1 <u>27</u></p> <p>Was the areal and vertical extent of soil contamination delineated? Yes <u> </u></p>	<p>NA / ND</p> <p>ND Highest concentration of TPH (mg/kg) <u> </u></p> <p> Highest concentration of SAR <u> </u></p> <p>BTEX > 915-1 No <u> </u></p>
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Approximate areal extent (square feet) 0

Vertical Extent > 915-1 (in feet) 25

Groundwater

Number of groundwater samples collected 0

Highest concentration of Benzene (µg/l) _____

Was extent of groundwater contaminated delineated? No

Highest concentration of Toluene (µg/l) _____

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

Highest concentration of Ethylbenzene (µg/l) _____

Number of groundwater monitoring wells installed _____

Highest concentration of Xylene (µg/l) _____

Number of groundwater samples exceeding 915-1 _____

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?

Initially one background soil boring was analyzed at depths of 10' and 15' below ground surface as part of the initial site investigation. Three additional background locations were sampled at depths of 5', 10', 15', 20', and 25' bgs.

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? Yes

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

No source of impact was detected outside of background elevations. No impacts require removal.

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.

Remediation will be determined based on field findings. Upon approval of reduced analyte suite, only remaining constituents of concern are SAR and EC exceedances. EC exceedances observed at SB01, SB02, and SB03. SAR exceedance above background observed at SB02@15. SAR exceedances were also observed at SB01 and SB03 below background levels. All 3 locations will be analyzed for EC and SAR during further investigation.

October 28, 2024 QB Energy coordinated HRL to advance three exploratory soil borings in attempts to find impacts from an historic pit based on an inspection performed October 2, 1996. See inspection report attached referencing a small pit next to the tank. Given the limited information QB performed soil boring on the three sides of the tank where this could have existed. Soil borings were advanced to 15' bgs and analyzed for full table 915-1. Upon results, the only exceedance's above background levels were observed with EC and SAR. Based on background sampling QB is requesting a reduced analyte suite of EC and SAR. (Lab data and tables attached)

December 11, 2024 QB Energy coordinated HRL to advance 6 total soil borings. 3 soil borings in the same locations as drilled on Oct. 28 to sample depths of 20' and 25'. Three background soil borings were also advanced to depths of 25' sampled at every 5' increment. SB01@20 had a SAR exceedance of 7.90. SB01@25 did not exceed 915-1. SB02@20 exceeded with a SAR of 27.0 and EC of 5.06. SB02 @25 had a SAR exceedance of 8.14. SB03@20 had a SAR exceedance of 12.30. SB03@25 had a SAR exceedance of 6.02. Background samples had a SAR range of 5.27-92.89 and EC range of 1.45-23.50 mmhos/cm.

Soil Remediation Summary

In Situ

Ex Situ

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

_____ 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 Q4 2024 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: \$ 30000

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? 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.

No disturbances incurred during site investigation.

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). 10/24/2024

Proposed site investigation commencement. 10/25/2024

Proposed completion of site investigation. 01/02/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/28/2024

Proposed date of completion of Remediation. 01/02/2025

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 is being submitted to request closure of Rem #38041.

December 11, 2024 QB Energy coordinated HRL to advance 6 total soil borings. 3 soil borings in the same locations as drilled on Oct. 28 to sample depths of 20' and 25'. Three background soil borings were also advanced to depths of 25' sampled at every 5' increment. SB01@20 had a SAR exceedance of 7.90. SB01@25 did not exceed 915-1 for the reduced suite. SB02@20 exceeded with a SAR of 27.0 and EC of 5.06. SB02 @25 had a SAR exceedance of 8.14. SB03@20 had a SAR exceedance of 12.30. SB03@25 had a SAR exceedance of 6.02. Background samples had a SAR range of 5.27-92.89 and EC range of 1.45-23.50 mmhos/cm. Based on the reduced analyte suite previously approved and background concentrations, QB Energy is requesting closure to REM #38041 historic pit exploration.

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: 01/02/2025

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: Steven Arauza

Date: 02/18/2025

Remediation Project Number: 38041

COA Type**Description**

	Based on review of information presented it appears that no further action is necessary at this time, and ECMC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or if surface and/or ground water is found to be impacted, then further investigation and/or remediation activities will be required at the site. In addition, the non-working surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules including the establishment of vegetative cover on non-cropland and successful growth on cropland. Landowner must approve reclamation of cropland.
1 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
404040490	FORM 27-SUPPLEMENTAL-SUBMITTED
404040753	ANALYTICAL RESULTS
404040754	ANALYTICAL RESULTS
404040755	ANALYTICAL RESULTS
404040766	ANALYTICAL RESULTS
404040767	ANALYTICAL RESULTS
404040772	MONITORING REPORT
404040808	MONITORING REPORT
404045459	ANALYTICAL RESULTS
404045461	ANALYTICAL RESULTS
404045463	ANALYTICAL RESULTS

Total Attach: 11 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	<p>Under Remediation Summary, the Operator cites a SAR range of 5.27-92.89 observed in background samples. This range is documented in attached doc #404045459. This closure request is approved based on the fact that the range of SAR exceedances observed in soil samples (5.92-40.44) falls within the described background sample range.</p> <p>Approval of this NFA request is not meant to imply that the observed SAR of 92.89 for background sample ID 20241211-PLBG-(DEBEQUE 08-13-S)@15 is appropriate for use of a background level for future projects. This particular sample appears to be an outlier in the background dataset. However, due to the documentation of multiple background samples exceeding the maximum exceedance in confirmation samples, this request is approved.</p>	02/18/2025

Total: 1 comment(s)