

State of Colorado
Energy & Carbon Management Commission

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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
Address: 1001 17TH STREET #1600		Phone: (970) 778-2314
City: DENVER State: CO Zip: 80202		Mobile: (970) 778-2314
Contact Person: Andy Verbonitz	Email: averbonitz@qb-energy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 37095 Initial Form 27 Document #: 403935843

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: CENTRALIZED EP WASTE MGMT FAC Facility ID: 149012 API #: _____ County Name: RIO BLANCO

Facility Name: LOVE RANCH CENTRALIZED E&P WASTE Latitude: 39.892642 Longitude: -108.296245

** correct Lat/Long if needed: Latitude: _____ Longitude: _____

QtrQtr: SWNW Sec: 9 Twp: 2S Range: 97W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 487951 API #: _____ County Name: RIO BLANCO

Facility Name: Love Ranch Facility Latitude: 39.889241 Longitude: -108.296215

** correct Lat/Long if needed: Latitude: _____ Longitude: _____

QtrQtr: NWSW Sec: 9 Twp: 2S Range: 97W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use high priority habitat

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? Yes

Other Potential Receptors within 1/4 mile

Piceance Creek

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
Yes	GROUNDWATER	TBD	investigation underway
Yes	SOILS	TBD	investigation underway
No	SURFACE WATER	TBD	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.

As part of remediation of project #37095, groundwater monitoring has been conducted on a monthly basis since the addition of monitoring wells MW-100 - MW- 113. All monitoring wells were installed between September 18 and November 25, 2024. Additional groundwater wells will be installed to further define inorganic exceedances observed in groundwater at monitoring well locations MW-100, MW-105, MW-106, MW-107, MW-108, and MW-112.

Please see the attached report of work completed (ROWC) for additional site investigation details.

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):

Additional soil borings and/or monitoring wells will be advanced to delineate inorganic exceedances observed at or near the previously installed monitoring well locations MW-100, MW-105, MW-106, MW-107, MW-108, and MW-112. As each of these borings are advanced the soils will be field screened at every 5-foot interval and discrete soil samples will be collected at the phreatic surface for laboratory submittal. Additionally, soil sampling will be conducted beneath the ancillary pumping equipment once site conditions allow. All soil samples collected associated with this remediation project will be submitted for Table 915-1 analysis.

See the attached ROWC for additional details.

Proposed Groundwater Sampling

Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Groundwater will be sampled on a quarterly basis from monitoring wells MW100 through MW113. Groundwater monitoring will include any new wells installed for Remediation Project #37095. Additional groundwater wells will be installed to further define inorganic exceedances observed in groundwater at monitoring well locations MW-100, MW-105, MW-106, MW-107, MW-108, and MW-112.

Proposed Surface Water Sampling

Will surface water samples be collected as part of this investigation? (Number, analyses, and locations of samples):

Groundwater points of compliance have been established via MW100 through MW113. Unless those compliance points are lost, surface water sampling of Piceance Creek will not be conducted as part of this remediation project.

Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan (summary):

See the Proposed Sampling Plan Sections of this form for these details.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 20
Number of soil samples exceeding 915-1 20
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 0

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 51.89
BTEX > 915-1 Yes
Vertical Extent > 915-1 (in feet) 35

Groundwater

Number of groundwater samples collected 45
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 5
Number of groundwater monitoring wells installed 14
Number of groundwater samples exceeding 915-1 17

ND Highest concentration of Benzene (µg/l) _____
ND Highest concentration of Toluene (µg/l) _____
-- Highest concentration of Ethylbenzene (µg/l) 0.001
96
ND Highest concentration of Xylene (µg/l) _____
NA Highest concentration of Methane (mg/l) _____

Surface Water

0 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.

OTHER INVESTIGATION INFORMATION

Were impacts to adjacent property or offsite impacts identified?

Were background samples collected as part of this site investigation?

Upgradient monitoring wells MW-110 and MW-111 have been installed to establish background conditions of soil and groundwater in accordance with ECOM Rule 915.e.(2).D.

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?

See the Proposed Sampling Plan Sections of this form for these details.

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 pond had been drained and removed from operation.

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.

After the investigation results are defined, QB Energy will develop a remediation strategy to be submitted in a future Form 27 Supplemental.

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.

Currently, fourteen (14) monitoring wells have been established and will continue to be sampled on a quarterly monitoring schedule. Additional groundwater wells will be installed to further define inorganic exceedances observed in groundwater at monitoring well locations MW-100, MW-105, MW-106, MW-107, MW-108, and MW-112.

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.

Reclamation will occur at the time of facility closure

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. 09/19/2024

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/19/2024

Proposed site investigation commencement. 09/19/2024

Proposed completion of site investigation. _____

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

This form is being submitted as the January 2025 monthly reporting requirement. 1) Moving forward, QB Energy requests update Form 27 submittals be moved to a quarterly reporting frequency. 2) Moving forward, QB Energy requests groundwater sampling be moved to a quarterly sampling frequency. 3) Moving forward, QB Energy requests relief from COA 7 in Form 19 Initial 403928642, which states: "In addition to analyzing surface and groundwater samples for the analytes listed on Table 915-1, the Operator will analyze all water sampling points for the complete list of analytes listed under Rule 909.j.(1)." QB Energy instead, proposes 909.j. sampling constituents be removed from the sampling suite. 4) And, in accordance with ECMC Rule ECMC Rule 915.e.(2)C QB Energy requests a reduced groundwater analyte suite of benzene, TDS, chloride, and sulfate for all future samples. If benzene is detected in future sampling events, all Table 915-1 analytes will be added back to the sampling plan.

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

Signed: Andy Verbonitz

Title: EHS Specialist

Submit Date: 01/28/2025

Email: averbonitz@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: 02/19/2025

Remediation Project Number: 37095

COA Type**Description**

	<p>Based on the information provided for groundwater samples (doc #404072395), the Operator's request for a reduced groundwater analyte suite of benzene, TDS, chloride and sulfate is approved under the condition below:</p> <p>If benzene is detected in future sampling events, toluene, ethylbenzene, total xylenes, naphthalene, 1,2,3-trimethylbenzene, and 1,3,5-trimethylbenzene will be added back to the sampling plan.</p>
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**

404062712	FORM 27-SUPPLEMENTAL-SUBMITTED
404069381	ANALYTICAL RESULTS
404069382	ANALYTICAL RESULTS
404069383	ANALYTICAL RESULTS
404069390	ANALYTICAL RESULTS
404069445	ANALYTICAL RESULTS
404069451	ANALYTICAL RESULTS
404069457	ANALYTICAL RESULTS
404069458	ANALYTICAL RESULTS
404069475	ANALYTICAL RESULTS
404071164	ANALYTICAL RESULTS
404071177	ANALYTICAL RESULTS
404072395	SITE INVESTIGATION REPORT
404073164	ANALYTICAL RESULTS
404073166	ANALYTICAL RESULTS
404073178	ANALYTICAL RESULTS
404073181	ANALYTICAL RESULTS
404073183	ANALYTICAL RESULTS

Total Attach: 18 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Based on the information provided for groundwater samples (doc #404072395), the Operator's request for relief from the Rule 909.j.(1) sampling requirement is conditionally approved.	02/19/2025
Environmental	Comply with outstanding COAs.	02/19/2025
Environmental	Based on the information provided for sampling results (doc #404072395), the Operator's requests to proceed to a quarterly reporting schedule and quarterly groundwater sampling frequency are conditionally approved.	02/19/2025

Total: 3 comment(s)