

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404168027  
Receive Date:  
04/16/2025

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 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: <u>QB ENERGY OPERATING LLC</u>	Operator No: <u>10844</u>	<b>Phone Numbers</b>
Address: <u>1001 17TH STREET SUITE 1600</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Jake Janicek</u>	Email: <u>jjanicek@qb-energy.com</u>	Phone: <u>(970) 778-2314</u>
		Mobile: <u>(970) 778-2314</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36102 Initial Form 27 Document #: 403815800

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: <u>PIT</u>	Facility ID: <u>101728</u>	API #: _____	County Name: <u>RIO BLANCO</u>
Facility Name: <u>CORRAL CREEK 4512</u>	Latitude: <u>39.940059</u>	Longitude: <u>-108.582235</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNE</u>	Sec: <u>26</u>	Twp: <u>1S</u>	Range: <u>100W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>PIT</u>	Facility ID: <u>117406</u>	API #: _____	County Name: <u>RIO BLANCO</u>
Facility Name: <u>69-016755A</u>	Latitude: <u>39.925656</u>	Longitude: <u>-108.561078</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NENE</u>	Sec: <u>36</u>	Twp: <u>1S</u>	Range: <u>100W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: WELL	Facility ID: _____	API #: 103-08183	County Name: RIO BLANCO
Facility Name: CORRAL CREEK 4512	Latitude: 39.925480	Longitude: -108.560838	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 36	Twp: 1S	Range: 100W Meridian: 6 Sensitive Area? Yes

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Facility Type: LOCATION	Facility ID: 315262	API #: _____	County Name: RIO BLANCO
Facility Name: CORRAL CREEK DAK-MOR FED-61S100W 36NENE	Latitude: 39.925750	Longitude: -108.560564	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NENE	Sec: 36	Twp: 1S	Range: 100W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications OH Most Sensitive Adjacent Land Use Rangeland  
 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**

**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	See Maps	Field investigation and soil 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.

Between August 19, 2024, and January 27, 2025, a grand total of 70 site assessment soil samples were collected adjacent to removed equipment and historic pit area.

12 soil samples were collected adjacent to the wellhead. The sample location 20241119-A36 1100-(WH-BASE)@14 will serve as the vertical point of compliance. The following soil samples will serve as the horizontal points of compliance: [20241119-A36 1100-(WH-EW02)@14], [20241119-A36 1100-(WH-NW02)@14], [20241119-A36 1100-(WH-SW02)@14], and [20241001-A36 1100-(WH-WW)@7].

19 soil samples were collected adjacent to the meter house. The sample location [20241001-A36 1100-(MH-BASE)@6] will serve as the vertical point of compliance. The following soil samples will serve as the horizontal points of compliance: [20250103-A36 1100-(MH-NW04)@15], [20250127-A36 1100-(MH-EW05)@17], [20241210-A36 1100-(T02-SW03)@8], and [20241001-A36 1100-(T02-WW)@8].

14 soil samples were collected adjacent to the buried trip tank. The sample location [20241001-A36 1100-(T02-BASE)@8] will serve as the vertical point of compliance. The following soil samples will serve as the horizontal points of compliance: [20241001-A36 1100-(T02-WW)@8], [20241210-A36 1100-(T02-SW03)@8], [20250103-A36 1100-(MH-NW04)@15], and [20250127-A36 1100-(MH-EW05)@17].

9 soil samples were collected adjacent to the separator. The sample location [20241001-A36 1100-(SEP-BASE)@7] will serve as the vertical point of compliance. The following sample locations will serve as the horizontal points of compliance: [20241001-A36 1100-(SEP-EW)@7], [20241001-A36 1100-(SEP-NW)@7], [20241001-A36 1100-(SEP-SW)@7], and [20241001-A36 1100-(SEP-WW)@7].

14 soil samples were collected adjacent to the historic pit and tank battery area. The above ground storage tank used to reside on top of the historic pit footprint. See the Operator Comment section for additional 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 samples will be collected to delineate the boron exceedances associated with the sample location [20240925-A36 1100-(FC-PL02)@5]. Please see Operator Comment section for additional details regarding soil sample [20240925-A36 1100-(FC-PL02)@5].

### 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 70

Number of soil samples exceeding 915-1 70

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 2500

### NA / ND

-- Highest concentration of TPH (mg/kg) 1698.063

-- Highest concentration of SAR 14.5

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 16

### 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?

42 background samples were collected from areas north, south, east, and west of the Corral Creek Dak-Mor Fed-61S100W 36 NENE Pad. Additionally, 40 background samples collected adjacent to the nearby Corral Creek 61S99W 29 SWSW Pad (ECMC Location ID 315646) and were utilized for this investigation. Both locations are located within similar geologies and topographies and the soils at both locations contain the same parent material. Please see Figures 8 and 9 for more information on those samples.

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 soil samples will be collected to delineate the boron exceedances associated with the sample location [20240925-A36 1100-(FC-PL02)@5]. Please see Operator Comment section for additional details regarding soil sample [20240925-A36 1100-(FC-PL02)@5].

Caerus is currently reviewing remediation strategies for the remaining stockpiles on site. All stockpiles are compliant with all ECMC Table 915-1 Cleanup Levels or proposed alternative levels detailed in the Remediation Summary Section of this form, except those listed for TPH and Hexavalent Chromium. "Soil shredding" and soil disposal are the options currently being evaluated. Caerus requests that the analytical suite being used to evaluate the remaining stockpile remediation be reduced to only those analytes (TPH and Hexavalent Chromium) that existing stockpile samples exhibit exceedances of. Please see Tables 2 and 3 and Figures 2-6 for more information on these stockpile samples.

## 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.

All impacts are being considered historical. Therefore, a source cannot be identified.

### 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.

To address the arsenic exceedances, Caerus requests an alternative allowable limit of 15.75 mg/kg for arsenic per ECMC Table 915-1 Footnote 11. Analytical results of background soil samples indicated a range of background arsenic concentrations from 2.20-12.6 mg/kg (Table 2). Per ECMC Table 915-1 Footnote 11, this adjusted range would be revised to 2.75 to 15.75 mg/kg. Excluding the sample collected from the south wall [20241111-A36 1100-(T02-SW02)@8] of the combined buried drip tank and meter house excavation, arsenic concentrations exhibited in vertical and horizontal delineation sample locations fall within this range of arsenic values. The south wall of the excavation was extended horizontally, and the subsequent sample collected [20241210-A36 1100-(T02-SW03)@8] did not exceed the adjusted background range for arsenic.

pH was detected at concentrations above the ECMC Table 915-1 cleanup concentration in fifty-one (51) of the seventy (70) site assessment soil samples (Table 2). However, analytical results of background soil samples indicate a range of background pH concentrations ranging from 7.39 to 9.52 (Table 2). Caerus requests an alternative allowable range of 7.39 to 9.52 for pH per ECMC Table 915-1 Footnote 1 based on the pH concentrations demonstrated in the background soil samples (Table 2 and Appendix A). All site assessment soil samples which exhibited ECMC Table 915-1 exceedances for pH are less than or within the adjusted background range for pH or have been excavated and removed.

SAR was detected at concentrations above the ECMC Table 915-1 cleanup concentration at twenty-three (23) soil sample locations. However, analytical results of background soil samples indicate a range of background SAR concentrations ranging from 0.218 to 23.7 (Table 2). Caerus requests an alternative allowable range of 0.218 to 23.7 for SAR per ECMC Table 915-1 Footnote 1 based on the SAR concentrations demonstrated in the background soil samples. See Operator Comments

**Soil Remediation Summary**

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

\_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Excavate and onsite remediation

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ 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  Since remaining work is not expected until the summer of 2025, Caerus requests that the required reporting frequency be reduced to Semi-Annually.

### 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 Change of Operator

## 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: \$ 350000

## 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.

Reclamation will be completed once all site closure assessments and remediation, if necessary, activities are completed.

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). 08/01/2024

Proposed site investigation commencement. 08/01/2024

Proposed completion of site investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/18/2024

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 to request change of operator from #10456 to #10844.

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

Signed: Jake Janicek

Title: EHS Specialist

Submit Date: 04/16/2025

Email: jjanicek@qb-energy.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECOMC Rules and applicable orders and is hereby approved.

ECMC Approved: John Heil

Date: 04/16/2025

Remediation Project Number: 36102

**COA Type****Description**

COA Type	Description
1 COA	Approval of this Form is only for change of Operator from 10456 to 10844.

**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**

Att Doc Num	Name
404168027	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 1 Files

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

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)