FORM 27 Rev 5/22

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 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 INFORMATON

Name of Operator: QB ENERGY OPERATING LLC Operator No: 10844
Address: 1001 17TH STREET SUITE 1600
City: DENVER State: CO Zip: 80202
Contact Person: Jake Janicek Email: jjanicek@qb-energy.com

Phone Numbers
Phone: (970) 778-2314
Mobile: (970) 778-2314

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 36180 Initial Form 27 Document #: 403815744

PURPOSE INFORMATION

- [X] 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.
- [X] Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- [ ] Rule 913.g: Changes of Operator.
- [X] Rule 915.b: Request to leave elevated inorganics in situ.
- [ ] Other:

SITE INFORMATION

Yes Multiple Facilities

Facility Type: PIT Facility ID: 102476 API #: County Name: RIO BLANCO
Facility Name: CORRAL CREEK 4508 Latitude: 39.929400 Longitude: -108.535374
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSW Sec: 29 Twp: 1S Range: 99W Meridian: 6 Sensitive Area? Yes

Facility Type: WELL Facility ID: API #: 103-08907 County Name: RIO BLANCO
Facility Name: CORRAL CREEK 4508 Latitude: 39.929985 Longitude: -108.533871
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSW Sec: 29 Twp: 1S Range: 99W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION Facility ID: 315646 API #: County Name: RIO BLANCO

Facility Name: CORRAL CREEK-61S99W 29SWSW Latitude: 39.929780 Longitude: -108.533804

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

QtrQtr: SWSW Sec: 29 Twp: 1S Range: 99W 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:

- [X] **E&P Waste**
  - [X] Produced Water
  - [ ] Oil
  - [X] Condensate
  - [X] Drilling Fluids
  - [X] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	Varies - see attached report	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 24, 2025, a grand total of 104 soil samples were collected adjacent to removed equipment and the historic pit footprint. Due to the amount of data associated with these investigative and remediation activities, all results can be found in the attached report. Specifically, results for each investigation area (wellhead area, tank battery area, production separator, meter house, buried drip tank, and historic pit) are detailed in Section 4 of the report. Additionally, Points of Compliance for soil remaining in situ established after impacted soils were removed are detailed for each of the areas listed above in Section 5 of the report.

Please see the Remediation Summary section for how Caerus plans to address the arsenic and pH exceedances and also for a requested alternate SAR and EC Cleanup Levels.

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):

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: 104

NA / ND

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Highest concentration of TPH (mg/kg): 3954

Number of soil samples exceeeding 915-1: 104 | -- | Highest concentration of SAR: 56.8

Was the areal and vertical extent of soil contamination delineated? Yes | BTEX > 915-1: No

Approximate areal extent (square feet): 2000 | Vertical Extent > 915-1 (in feet): 40

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?

40 background samples collected adjacent to the Corral Creek 4508 Pad were utilized for this investigation. Please see Figures 9 of the attached report for more information on those samples.

At the request of ECMC, QB Energy performed a statistical analysis of the Corral Creek 4508 Background soil samples to determine statistical ranges for SAR and EC. Please see Operator Comments and Appendix A in the attached Site Investigation Report for additional details on this statistical analysis.

☐ 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?

Pending the approval of the Alternate Cleanup Concentration requests in the Remediation Summary Section of this form, the only remaining impacts are associated with the buried drip tank and the Historic Pit (Facility ID 102476) on the western edge of the pad surface. Based on all investigative results associated with the buried drip tank, horizontal delineation is complete. Sample locations [20240919-M29 199-(T03-EW)@10], [20240919-M29 199-(T03-NW)@10], [20240919-M29 199-(T03-SW)@10], and [20240919-M29 199-(T03-WW)@10] will serve as the horizontal points of compliance. The soil sample [20240919-M29 199-(T03-BASE)@10] exhibited arsenic concentrations above Table 915-1 and adjusted background ranges. QB Energy will collect additional soil samples from the base of the buried drip tank excavation at depths greater than 10 feet bgs for vertical delineation. QB Energy requests a reduced analyte suite of arsenic only for additional soil samples collected in association with the buried drip tank. Based on all investigative results associated with the historic pit, vertical and horizontal delineation of the historic pit is complete. Sample locations [20241017-M29 199-(SB01)@20] and [20241018-M29 199-(SB02)@40] will serve as the vertical points of compliance within the historic pit. All soil samples collected from soil borings SB07 and SB03 will serve as the northern and southern horizontal points of compliance, respectively. All soil samples collected from soil borings SB04 and SB08 will serve as the western points of compliance. All soil samples collected from soil borings SB06 and SB09 will serve as the eastern points of compliance. Samples collected in between these points of compliance demonstrated EC, SAR, and HWS Boron at concentrations above the ECMC Table 915-1 cleanup concentration (Table 2).

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.

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.

All soil removed during remedial activities detailed in this form have been sampled via composite sampling, and pending alternative Cleanup Levels detailed below, have been confirmed as compliant with ECMC Table 915-1 Cleanup Levels or within background concentrations. Please see Tables 2 and 3 and Figures 2-9 for more information on these samples.

In order to address remaining inorganic (EC, SAR, and boron) impacts remaining within the former pit located west of the pad surface, QB requests that the impacted soil remain in situ per ECMC Rule 915.b. Please see the attached Reclamation Plan which details the procedures planned to adequately leave these impacts in situ.

To address the arsenic exceedances, QB Energy requests an alternative allowable limit for arsenic per ECMC Table 915-1 Footnote 11. Analytical results of background soil samples indicated a range of background arsenic concentrations from 1.84-12.0 mg/kg. Per ECMC Table 915-1 Footnote 11, this adjusted range would be revised to 2.30 to 15.0 mg/kg. Excluding the soil sample [20240919-M29 199-(T03-BASE)@10], arsenic concentrations exhibited in site assessment sample locations fall within this range of arsenic values.

Please see the Operator Comments Section of this form for a continuation of this section.

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:

[X] Quarterly [ ] Semi-Annually [ ] Annually [ ] Other

[X] **Request Alternative Reporting Schedule:**

[X] 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

[X] Other Q4 2024 and Q1 2025 Status 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: $ 0

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? No

Does the previous reply indicate consideration of background concentrations?

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.

In order to address remaining inorganic (EC, SAR, and boron) impacts remaining within the former pit located west of the pad surface, QB requests that the impacted soil remain in situ per ECMC Rule 915.b. All impacted soils are delineated horizontally and vertically and will be under at least eight feet of clean material. Please see the attached Reclamation Plan which details the procedures planned to adequately leave these impacts in situ. Following the approval of this request, QB plans to complete final reclamation as outlined in the attached Reclamation Plan. Construction drawings are included within the attached Reclamation Plan, which outlines the soil boring locations representing delineated extents of inorganic impacts proposed to be left in-situ.

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). 08/19/2024

Proposed site investigation commencement. 08/19/2024

Proposed completion of site investigation. 01/24/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/19/2024

Proposed date of completion of Remediation. 01/24/2025

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

Continued from the Remediation Summary section:

pH was detected at concentrations above the ECMC Table 915-1 cleanup concentration in 51 of the 104 site assessment soil samples. However, analytical results of background soil samples indicate a range of background pH concentrations ranging from 7.39 to 9.52. QB Energy 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. 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.

SAR was detected at concentrations above the ECMC Table 915-1 cleanup concentration at 22 of the 104 site assessment soil samples. Statistical analysis of background soil samples within the area demonstrates SAR values have a lower outlier limit (LOL) of -2.01 and upper outlier limit (UOL) of 10.19. Based on the likely range of SAR concentrations demonstrated by the statistical analysis, QB Energy requests to modify the maximum allowable concentration for SAR to 10.19 per ECMC Table 915-1 Footnote 1 based on the SAR concentrations demonstrated in the background soil samples (Table 2). Twelve (12) site assessment soil samples exceed the adjusted maximum SAR range of 10.19. These exceedances are associated with investigation sampling at the former pit area. All other SAR exceedances within the investigation areas are less than or within the adjusted maximum SAR range of 10.19 or have been excavated and removed.

EC was detected at concentrations above the ECMC Table 915-1 cleanup concentration at 12 of the 104 site assessment soil samples. Statistical analysis of background samples demonstrates that the EC values have an LOL and UOL range from 0.027 to 0.672 mmhos/cm. This LOL to UOL range is below the ECMC Table 915-1 cleanup concentration of 4 mmhos/cm for EC. Remaining EC exceedances are associated with investigation sampling at the former pit area.

Chromium VI was detected at concentrations above the ECMC Table 915-1 RSSLs at 58 of the 104 assessment soil samples. Soil from these locations have been excavated and subsequent soil samples are below ECMC Table 915-1 RSSLs. Due to the ECMC Table 915-1 RSSLs Cleanup Concentration for chromium (VI) being less than the Practical Quantitation Limit (PQL), the PQL of 1.00 mg/kg has been substituted for the cleanup concentration of 0.3 mg/kg as permitted in ECMC Table 915-1 Footnote 9. Soil sample locations with marginal exceedances of the PQL were reanalyzed to demonstrate chromium VI concentrations below the PQL of 1.00 mg/kg.

TPH was detected at concentrations above the ECMC Table 915-1 cleanup concentration at three (3) sample locations (Table 3). Benz(a)-anthracene, benzo(b)fluoranthene and dibenz(a,h)anthracene were detected at concentrations above the ECMC Table 915-1 RSSLs at one (1) soil sample location. Benzo(a)-pyrene was detected at concentrations above the ECMC Table 915-1 RSSLs at two (2) soil sample locations (Table 3). Soil from these sample locations have been excavated and subsequent delineation soil samples were collected. The subsequent samples collected at these locations did not demonstrate TPH, Benz(a)-anthracene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and benzo(a)-pyrene exceedances against the ECMC Table 915-1 RSSLs and cleanup concentration.

No surface water or groundwater were encountered during soil sampling activities. Due to form character limits, please see Section 2 of the attached Site Investigation Report for additional details on the pathway to groundwater assessment. QB Energy requests ECMC approval to compare site sample results to ECMC Table 915-1 RSSLs.

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: 05/29/2025 Email: jjanicek@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: 07/25/2025

Remediation Project Number: 36180

COA Type	Description
Final Reclamation	In the event table 915-1 exceedances of EC, SAR, or pH boron remain, Operator's 915.b request to leave impacts in situ, and covered with a minimum of 10 feet of soil is approved.
Final Reclamation	As to any future remedial efforts requiring excavation: topsoil salvage, soil segregation and protection of soils shall be performed in accordance with Rule 1002.b and 1002.c.
Construction	Soils to be placed over the impacted material during reclamation efforts shall be done so in accordance with Rule 1003.e.(2); Operator shall implement Best Management Practices to ensure that topsoil is replaced and protected in such a manner as to prevent mixing with subsoils, impacted materials or other contaminants.
Final Reclamation	Approval/Passing of this Form is not an endorsement of the reclamation plan that has been attached/included; Location will need to meet 1000 series requirements in order to pass reclamation. If it is determined that reclamation is not progressing towards 1000 series standards, additional remedial efforts may be required; the reclamation plan should be updated based on the site's conditions, and implemented in order to ensure standards are met.
4 COAs	

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
404204005	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
404217465	SITE INVESTIGATION REPORT
404217472	ANALYTICAL RESULTS
404217478	ANALYTICAL RESULTS
404217487	ANALYTICAL RESULTS
404217496	ANALYTICAL RESULTS
404217503	ANALYTICAL RESULTS
404217504	ANALYTICAL RESULTS
404217505	ANALYTICAL RESULTS
404217508	ANALYTICAL RESULTS
404217511	ANALYTICAL RESULTS
404217514	ANALYTICAL RESULTS
404217515	ANALYTICAL RESULTS
404217517	ANALYTICAL RESULTS
404217519	ANALYTICAL RESULTS
404217520	ANALYTICAL RESULTS
404217523	ANALYTICAL RESULTS
404217529	ANALYTICAL RESULTS
404217531	ANALYTICAL RESULTS
404217539	ANALYTICAL RESULTS
404217542	ANALYTICAL RESULTS
404217545	ANALYTICAL RESULTS
404217551	ANALYTICAL RESULTS
404217556	ANALYTICAL RESULTS
404217562	ANALYTICAL RESULTS
404217569	ANALYTICAL RESULTS
404217573	ANALYTICAL RESULTS
404217574	ANALYTICAL RESULTS
404217577	ANALYTICAL RESULTS
404218158	RECLAMATION PLAN
404294303	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 31 Files

General Comments

User Group	Comment	Comment Date
Environmental	ECMC approves the requests outlined in the OPERATOR COMMENT section of this Form 27.	07/22/2025

Total: 1 comment(s)