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: Blair Rollins Email: brollins@qb-energy.com

Phone Numbers
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PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 23856 Initial Form 27 Document #: 403056775

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.
- [X] 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

No Multiple Facilities

Facility Type: SPILL OR RELEASE Facility ID: 481668 API #: County Name: GARFIELD
Facility Name: P26W Spill Latitude: 39.410515 Longitude: -107.734642
** correct Lat/Long if needed: Latitude: 39.410445 Longitude: -107.734845
QtrQtr: SESE Sec: 26 Twp: 7S Range: 93W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications GC
Most Sensitive Adjacent Land Use Non-cropland 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

NA

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [ ] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] 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	25 feet by 25 feet by 12.5 feet bgs	Soil 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.

On February 21, 2022, an unknown volume of comingled fluid was released into the lined secondary containment due to a valve failure during transport truck offloading operations. The release was reported via Energy & Carbon Management Commission (ECMC) Form 19 Document 402963034 to open Spill/Release Point ID 481668. Form 27 Document 403056775 was later submitted to open Remediation Project 23856.

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):

No additional soil sampling is proposed. See the attached Report of Work Completed (ROWC) for further details.

Proposed Groundwater Sampling

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

Groundwater was not encountered at any point during the investigation.

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 **NA / ND**

Number of soil samples collected 7 -- Highest concentration of TPH (mg/kg) 332.1

Number of soil samples exceeeding 915-1 7 -- Highest concentration of SAR 4.88

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

Approximate areal extent (square feet) 625 Vertical Extent > 915-1 (in feet) 12

Groundwater

Number of groundwater samples collected 0 Highest concentration of Benzene (µg/l)

Was extent of groundwater contaminated delineated? Yes 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?

On June 10, 2025, background soil samples were collected to establish native concentrations of inorganic constituents of concern. Four samples were obtained from undisturbed, non-impacted soil located approximately 450 feet south of the pad at depths of 2.5 to 3 feet bgs. Background sampling area shares the same soil classification as the impacted Location Morval-Tridell complex.

☐ 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? No

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

On May 23, 2025, remedial excavation activities were completed at the site, followed by the collection of confirmation soil samples. Prior to sampling, all impacted material identified during previous delineation efforts was excavated and stockpiled on Location for further assessment. The final excavation measured approximately 25 feet by 25 feet and extended to a depth of 12.5 feet below ground surface (bgs). Five confirmation soil samples were collected. Elevated concentrations of pH and arsenic exceeding RSSL remain within the investigation area and associated soil stockpiles. Site-specific background data indicate that arsenic levels are consistent with native conditions. All background samples, collected less than 450 feet south of the Location from soils classified as Morval-Tridell complex, exhibited arsenic concentrations above the RSSL. Given the proximity and identical soil type, it is reasonable to conclude that the elevated arsenic observed at the Location reflects naturally occurring conditions. Additionally, a source characterization sample collected from the nearby SHIDELER-67S93W/25NWSW (Location ID 334613). Analytical results from the source sample reported a pH of 8.19 and a low arsenic concentration of 0.00278 mg/L. Wells at both Locations were drilled to comparable depths—8,371 to 8,811 feet bgs at the site and 7,950 to 8,496 feet bgs at SHIDELER-67S93W/25NWSW—and produce from the same WMFK formation. Based on these findings, it is reasonable to conclude that elevated pH and arsenic concentrations at the Location are not attributable to oil and gas operations. In accordance with ECMC Rule 915.e.(2).C., QB requests the removal of pH and arsenic as constituents of concern and closure of Remediation Project 23865 with a NFA determination and request to utilize the compliant material as excavation backfill. See the attached ROWC for further details.

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 of existing soil impacts was accomplished through targeted excavation of affected material beneath the tank battery containment liner. The excavation measured approximately 25 feet by 25 feet and extended to a depth of 12.5 bgs, based on vertical delineation completed in 2024. All impacted material was stockpiled onsite for evaluation. Five confirmation samples collected from the excavation base and sidewalls confirmed removal of total petroleum hydrocarbons (TPH) to below applicable limits. However, elevated pH and arsenic remained above Residential Soil Screening Levels (RSSL). Background samples collected from undisturbed soil approximately 450 feet south of the pad indicate that arsenic concentrations are naturally elevated in native Morval-Tridell complex soils. Additionally, source characterization of produced water from a nearby, geologically comparable well confirms that pH and arsenic in the waste stream are below concern thresholds. Therefore, elevated pH and arsenic are not attributable to oil and gas operations. QB requests the constituents be removed as constituents of concern per ECMC Rule 915.e.(2).C. Remediation activities were completed on May 23, 2025. QB requests closure of Remediation Project 23865 with a no further action (NFA) determination and approval to reuse compliant stockpiled material as backfill. No additional remedial action is necessary. See the attached ROWC for further details.

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 # ____
- Yes Excavate and onsite remediation
  - No Land Treatment
  - No Bioremediation (or enhanced bioremediation)
  - No Chemical oxidation
  - Yes Other Beneficial reuse of stockpiled soil as backfill.

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.

Groundwater was not encountered at any point during the investigation.

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 2025 Q3 Q4 REM update and NFA request

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? 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.

The spill occurred within the secondary containment on the active working surface of the pad. Any disturbance will be returned to the active working surface of the well pad for continued operation. When the site is decommissioned at a later date, it will be reclaimed in accordance with 1000 Series regulations.

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. 02/21/2022

Actual Spill or Release date, or date of discovery. 02/21/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/20/2024

Proposed site investigation commencement. 06/20/2024

Proposed completion of site investigation. 08/01/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/01/2025

Proposed date of completion of Remediation. 05/23/2025

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

Elevated concentrations of pH and arsenic exceeding RSSL remain within the investigation area and associated soil stockpiles. However, site-specific background data indicate that arsenic levels are consistent with native conditions. All background samples, collected less than 450 feet south of the Location from soils classified as Morval-Tridell complex, exhibited arsenic concentrations above the RSSL. Given the proximity and identical soil type, it is reasonable to conclude that the elevated arsenic observed at the Location reflects naturally occurring conditions. Additionally, a source characterization sample collected from the nearby SHIDELER-67S93W/25NWSW (Location ID 334613) confirms that produced water is not a significant contributor of elevated pH or arsenic. Analytical results from the source sample reported a pH of 8.19 and a minor arsenic concentration of 0.00278 mg/L. Wells at both Locations were drilled to comparable depths, 8,371 to 8,811 feet bgs at the Location and 7,950 to 8,496 feet bgs at SHIDELER-67S93W/25NWSW, and produce from the same WMFK formation. Based on these findings, it is reasonable to conclude that elevated pH and arsenic concentrations at the Location are not attributable to oil and gas operations. In accordance with ECMC Rule 915.e.(2).C., QB requests the removal of pH and arsenic as constituents of concern.

Assuming operator knowledge is approved, all constituents of concern are within Table 915-1 or proposed alternative allowable limits, including the stockpiled material. Based on this information, QB requests closure of Remediation Project 23865 with a NFA determination and request to utilize the compliant stockpile material as excavation backfill.

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

Signed: Blair Rollins Title: Environmental Specialist

Submit Date: 07/22/2025 Email: brollins@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: 07/22/2025

Remediation Project Number: 23856

COA Type	Description
	Based on a review of the information provided, it appears that no further action is necessary at this time and ECMC approves the closure request. Should conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards, or, if groundwater is found to be significantly impacted, further investigation and/or remediation activities may be required at the site.
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
404279903	FORM 27-SUPPLEMENTAL-SUBMITTED
404279977	LABORATORY ANALYTICAL REPORT
404279989	LABORATORY ANALYTICAL REPORT
404279992	LABORATORY ANALYTICAL REPORT
404279994	LABORATORY ANALYTICAL REPORT
404286329	SITE INVESTIGATION REPORT

Total Attach: 6 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)