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
Phone: (970) 640-6919
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PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19200 Initial Form 27 Document #: 402614523

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.
- [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

Yes Multiple Facilities

Facility Type: PIT Facility ID: 277362 API #: County Name: GARFIELD
Facility Name: UNOCAL 16-11D Latitude: 39.526128 Longitude: -108.124417
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENE Sec: 17 Twp: 6S Range: 96W Meridian: 6 Sensitive Area? No

Facility Type: LOCATION Facility ID: 335825 API #: County Name: GARFIELD
Facility Name: N. Parachute MF H17 696 Latitude: 39.527149 Longitude: -108.123650
** correct Lat/Long if needed: Latitude: 39.527343 Longitude: -108.123475
QtrQtr: Lot 7 Sec: 17 Twp: 6S Range: 96W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Riparian

Is domestic water well within 1/4 mile? Yes

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

A domestic water well is located approximately 750 feet to the west and Parachute Creek is located approximately 920 feet to the west.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [ ] Oil
  - [ ] Condensate
  - [ ] 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	112 feet x 41 feet x 16 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 June 3, 2011, a transducer failed during frac operations allowing pressure to spike. The water was sent to an emergency tank; however, the pump was not shut off quickly enough which resulted in the release of 15 barrels (bbls) of produced water. The release was confined to the Location's working surface and 10 bbls of water were recovered via hydro vacuum truck. The release was reported via Energy & Carbon Management Commission (ECMC) Form 19 Document 2214280. Form 27 Document 402614523 was later submitted to open Remediation Project 19200. Form 27 Document 403640417 approved a reduced analyte list of total petroleum hydrocarbons (TPH), electrical conductivity (EC), sodium adsorption ratio (SAR), pH, and hexavalent chromium and approved an alternative allowable limit for hexavalent chromium of 1.0 milligrams per kilogram (mg/kg). See the attached Report of Work Completed (ROWC) for site investigation details to date.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

No additional excavation or characterization sampling is proposed. Remedial soil amendments are being proposed to address pH exceedances within the eastern soil stockpile. Once complete, an appropriate number of composite soil samples will be collected to assess the effectiveness of soil treatment, prior to utilizing the soil for beneficial reuse as backfill. 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 was not encountered during investigation activities.

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 21

NA / ND

-- Highest concentration of TPH (mg/kg) 360

Number of soil samples exceeeding 915-1: 3

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet): 2500

NA — Highest concentration of SAR

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 16

Groundwater

Number of groundwater samples collected: 0

Was extent of groundwater contaminated delineated? Yes

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?

In July 2021, four background soil samples were collected to characterize native levels of soil suitability for reclamation (SSR) constituents of concern at the Location. On August 27, 2024, five additional background soil samples were collected from comparable, nearby, non-impacted soil to establish native levels of inorganics at the Location. See the attached ROWC for details.

☐ 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 additional source removal is proposed.

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.

See the ROWC a Form 27 Document 403937751 for site investigation details prior to 2025.

On February 27, 2025, additional delineation samples were collected from the open excavation. Prior to Confluence's arrival, an excavation was opened and measured approximately 112 feet long, by 41 feet wide, by 16 feet bgs. Thirteen soil samples were collected: three from the base of the excavation at 16 feet bgs and 11 from the corresponding sidewalls at depths ranging from 9 to 12 feet bgs. Analytical results of delineation soil samples indicate that TPH is compliant with the RSSL and pH concentrations are within the alternative allowable limit except three sidewall samples (SW_W, NW_E, and EW_S) and one base sample (BASE_S).

On March 18, 2025, Confluence returned to the Location to delineate impacts identified in the southwestern sidewall of the February 2025 excavation and to characterize the stockpiles associated with the excavation. Prior to sampling, the excavation was expanded southwest approximately 15 feet and one sample was collected from the sidewall at 11 feet bgs. Additionally, six composite samples were collected from the associated stockpiles. Analytical results of the sample are compliant with allowable limits for TPH and pH. The western stockpile exceeded TPH and pH and the eastern stockpile exceeded for pH only.

QB proposes a chemical treatment to remediate elevated pH within the eastern stockpile. A mild concentration of citric acid and molasses would be applied over top of the eastern stockpile and blended throughout.Confirmation soil samples from the stockpile will be collected to confirm remediation to within approved pH concentrations prior to beneficial reuse as backfill.

See the attached ROWC for details.

Soil Remediation Summary

☐ **In Situ**

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

☒ **Ex Situ**

- Yes Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 1200
  - Name of Licensed Disposal Facility or ECMC Facility ID # ____
- Yes Excavate and onsite remediation
  - Yes Land Treatment
  - No Bioremediation (or enhanced bioremediation)
  - No Chemical oxidation
  - No Other ____

Groundwater Remediation Summary

- No Bioremediation (or enhanced bioremediation)
- No Chemical oxidation
- No Air sparge / Soil vapor extraction
- No Natural Attenuation
- No 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 2025 Semi-Annual REM 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: $ 75000

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

No beneficial use.

Volume of E&P Waste (solid) in cubic yards 1200

E&P waste (solid) description Hydrocarbon impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Greenleaf Environmental Services

Volume of E&P Waste (liquid) in barrels 0

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.

Prior to requesting closure, QB plans to treat the eastern stockpile with pH Down (or similar product) to remediate documented pH exceedances. Following confirmation sampling of the remediated stockpile, QB proposes to collect confirmation samples to ensure any prior pH exceedances have been adequately reduced to approved levels. Once confirmation sampling indicates compliance, QB requests to reuse the eastern stockpile material as backfill within the open excavation.

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.

Actual Spill or Release date, or date of discovery. 06/03/2011

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/03/2011

Proposed site investigation commencement. 07/28/2021

Proposed completion of site investigation. 05/01/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/28/2021

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

QB is submitting this form to provide a status updates for site investigation and remediation activities completed in Q1 and Q2 2025. Additionally, this form has been submitted to propose treatment of the eastern stockpile with pH Down (or similar product) to remediate documented exceedances within the stockpile. Following treatment application, QB proposes to collect an appropriate number of composite soil samples to ensure any prior pH exceedances have been adequately reduced to approved levels. When pH levels indicate compliance with approved levels, QB requests to reuse the eastern stockpile material as backfill within the open excavation. Please see the attached ROWC for additional details and the attached Reclamation Plan for details regarding site reclamation.

This form was originally submitted on 04/22/2025. Following the data integrity NTO issued on 04/08/2025, this form was returned to draft on 06/11/2025,and is now being resubmitted on 06/27/2025 with secured laboratory reports included.

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: 06/27/2025 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: 07/16/2025

Remediation Project Number: 19200

COA Type	Description
0 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
404174663	FORM 27-SUPPLEMENTAL-SUBMITTED
404174836	ANALYTICAL RESULTS
404174838	ANALYTICAL RESULTS
404174848	REMEDIATION PROGRESS REPORT
404258458	LABORATORY ANALYTICAL REPORT

Total Attach: 5 Files

General Comments

User Group	Comment	Comment Date
Environmental	ECMC approves the request to reuse the eastern stockpile material as backfill within the open excavation.	07/16/2025
Environmental	ECMC approves the proposed treatment of the eastern stockpile with pH Down (or similar product) to remediate documented exceedances within the stockpile and the proposal to collect an appropriate number of composite soil samples to ensure any prior pH exceedances have been adequately reduced to approved levels.	06/11/2025

Total: 2 comment(s)