

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Steven Arauza

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: 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: Jake Janicek	Email: jjanicek@qb-energy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 35472 Initial Form 27 Document #: 403770868

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: Request for Closure of Remediation Project Number (RPN) 35472

SITE INFORMATION

No Multiple Facilities

Facility Type: LOCATION	Facility ID: 324170	API #: _____	County Name: GARFIELD
Facility Name: PUCKETT-66S97W 25SWNE	Latitude: 39.497625	Longitude: -108.166939	
	** correct Lat/Long if needed: Latitude: 39.497391	Longitude: -108.166628	
QtrQtr: SWNE	Sec: 25	Twps: 6S	Range: 97W 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

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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
No	SOILS	NA	Field Observations and Lab 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.

Following the removal of the partially buried vault (PBV) [Serial Number 4454] at the PUCKETT-66S97W 25SWNE (Facility ID: 324170) (Puckett 253-25) four sidewalls and one base confirmation soil samples were collected from the excavation footprint on September 12, 2024. A minimum of six inches of soil was first scraped back from each sampling surface prior to collection to assure representative samples were collected. All confirmation samples were collected from areas exhibiting the greatest degree or potential of impact based on field observation. Additionally, the transfer flowline between the former PBV and the separator skid was trenched to remove/decommission associated PBV piping infrastructure. Four 5-point composite samples were collected from the stockpiles (four) located onsite. STOCK02 and STOCK04 consisted of excavated PBV soils, STOCK01 consisted of soils excavated from the flowline trench soils, and STOCK03 consisted of soils excavated from the base of the separator skid. The headspace of each soil sample was field screened using a photo-ionization detector (PID) to detect for the presence or absence of volatile organic compounds (VOCs). Soils were also field characterized by a geologist for hydrocarbon odors or staining via visual and olfactory sense. A total of nine confirmation soil samples were submitted to Pace Analytical for laboratory analysis of ECMC Table 915-1 constituents.

Please see the attached report of work completed (ROWC) for details regarding soil sampling activities, accompanying figures, and a discussion of the analytical results.

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 9

Number of soil samples exceeding 915-1 9

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

Approximate areal extent (square feet) 250

NA / ND

-- Highest concentration of TPH (mg/kg) 200.7
661

-- Highest concentration of SAR 1.68

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 8

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?

To provide comparison to background soil conditions, six site-specific background soil samples were collected from four nearby, undisturbed native areas in accordance with ECMC 915.e.(2).D. These backgrounds were submitted for laboratory analysis of electrical conductivity (EC), sodium adsorption ratio (SAR), pH, hot water soluble boron, and ECMC Table 915-1 metals.

Please see the attached ROWC for more information regarding the collection of the site-specific background samples, a discussion of the analytical results, and supporting figures.

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.

There are currently no impacts associated with this project (RPN 35472). Therefore source removal details cannot be provided.

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 associated with this project is not needed.

Note: The below chromium (VI) information is placed in "Remediation Summary" section as the "Operator Comments" section is character limited.

To address the chromium (VI) exceedances, Caerus requests the Director to consider the use of ECMC Table 915-1 Footnote 1 and Footnote 9 be used to evaluate this project for remediation success.

The chromium (VI) concentrations observed in the nine confirmation soil samples collected on September 12, 2024 ranged from below the laboratory minimum detection limit (MDL) in to 0.574 mg/kg. These chromium (VI) values are within the chromium (VI) concentration observed in a background sample associated with nearby location, CHEVERON J13 697 [J13 697 (Facility ID 335616)]. The J13 697 is located approximately 1.60 miles north of the Site and is in the same soil horizon [Map Unit Symbol 682 - Parachute-Rhone loams (5 - 30% slopes)]. J13 697 background soil sample 20240725-LMBG-(J13 697-E)@10-11.5 reported a chromium VI concentration of 0.651 mg/kg.

To further address the chromium (VI) exceedances, Caerus requests from the Director use of ECMC Table 915-1, Footnote 9 to use the analytical laboratory's reporting detection limit of 1.0 mg/kg as an alternative screening level. Although there are reported chromium (VI) concentrations exceeding the ECMC Table 915-1 RSSLCs in three of the nine confirmation samples collected, as described in the attached ROWC, these concentrations are below the Reporting Detection Limit (RDL) of 1.0 mg/kg resulting in an analytical laboratory qualifying J-flag.

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.

[Empty rectangular box for monitoring plan details]

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other Request for Closure of RPN 35472

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 _____

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, Caerus has general liability insurance in the amount of \$1M, and Caerus has umbrella insurance, which sits over the general liability insurance in the amount of \$75M. The umbrella and general liability insurance covers property damage, bodily injury to third parties, and sudden or accidental pollution under a combined \$76M.

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.

Any excavation associated with this project will be backfilled to match existing pad elevation.

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). 09/13/2024

Proposed site investigation commencement. 09/13/2024

Proposed completion of site investigation. 09/13/2024

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

In accordance with Table 915-1 Footnote 1, Caerus requests the Director to consider removing pH and arsenic from the list of contaminants of concern (COCs) used to evaluate this project for remediation success. Reasoning supporting this request follows.

The pH concentrations observed in the nine confirmation soil samples collected on September 12, 2024 ranged from 6.55 standard units (SU) to 8.44 SU. These pH values are within the pH concentration observed in a background sample associated with nearby location, PUCKETT-67S97W/1NWNE [Puckett 262-1 (Facility ID 324325)]. The Puckett 262-1 is located approximately 1.30 miles south of the Site and is in the same soil map unit per ECMC GIS Database, Map Unit Symbol 682 - Parachute-Rhone loams (5 - 30% slopes). Puckett 262-1 background soil sample 20230907-LMBG-(262-1-BG-S)@2 exhibited a pH concentration of 8.86 SU.

The arsenic concentrations observed in the nine confirmation soil samples collected on September 12, 2024 ranged from 4.60 milligram per kilogram (mg/kg) to 14.0 mg/kg. These arsenic values are within the arsenic concentration observed in a background sample associated with nearby location, PUCKETT-66S97W/25SESE [Puckett 44C-25 (Facility ID 324244)]. The Puckett 44C-25 is located approximately 0.70 miles southeast of the Site and is in the same soil horizon as described above. Puckett 44C-25 background soil sample 20240612-LMBG-(PUCKETT 44C-25-S) @ 1 exhibited an arsenic concentration of 53.0 mg/kg.

Figure 6 of the attached ROWC includes a geo-proximity map that depicts the distance between the Site and the three referenced nearby pad locations (Puckett 262-1, Puckett 44C-25, and J13 697). The lab reports are included in Enclosure B.

In accordance with ECMC Table 915-1, Footnote 7, Caerus requests that RPN 35472 be evaluated under ECMC Residential Soil Screening Level Concentrations (RSSLCs) due to the observations and facts provided below as it relates to potential pathways to groundwater associated with the Puckett 253-25 location.

- 1) No groundwater was/has been observed infiltrating, pooling, or standing within the excavation footprint at any point during the excavation or sample collection activities.
- 2) No hydrocarbon impacts were observed greater than ECMC RSSLCs as confirmed through laboratory analytical results of collected confirmation soil samples.
- 3) Nearby monitoring well (39.492616, -108.169059), Department of Water Resources (DWR) Well Permit Number 271290, is located 0.35 miles south of the Puckett 253-25 pad location and at a comparable elevation, 8,080 amsl. The depth to water documented on the well construction and test report is 260 feet below ground surface (bgs).

Based on the information presented in the attached ROWC and in this document, Caerus requests the Director to assign a "No Further Action" designation to RPN 35472 which is associated with the removal of PBV (SN 4454) at the Puckett 253-25 (Facility ID: 324170) pad location.

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: 11/26/2024

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: Steven Arauza

Date: 01/06/2025

Remediation Project Number: 35472

COA Type

Description

COA Type	Description
1 COA	Based on review of information presented it appears that no further action is necessary at this time, and ECMC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or if surface and/or ground water is found to be impacted, then further investigation and/or remediation activities will be required at the site. In addition, the non-working surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules including the establishment of vegetative cover on non-cropland and successful growth on cropland. Landowner must approve reclamation of cropland.

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
403996170	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403999334	ANALYTICAL RESULTS
403999336	ANALYTICAL RESULTS
403999338	ANALYTICAL RESULTS

404001987	ANALYTICAL RESULTS
404001988	ANALYTICAL RESULTS
404007443	ANALYTICAL RESULTS
404007531	SITE INVESTIGATION REPORT
404048778	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 9 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)