FORM 27 Rev 5/22

State of Colorado
Oil and Gas Conservation Commission

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Receive Date: 05/24/2023
Report taken by: Steven Arauza

Site Investigation and Remediation Workplan (Initial 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 COGCC 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 Form27.
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: CAERUS PICEANCE LLC Operator No: 10456
Address: 1001 17TH STREET #1600
City: DENVER State: CO Zip: 80202
Contact Person: Andy Verbonitz Email: averbonitz@caerusoilandgas.com

Phone Numbers
Phone: (970) 902-3598
Mobile: (970) 902-3598

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 30016 Initial Form 27 Document #: 403408053

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

Yes Multiple Facilities

Facility Type: LOCATION Facility ID: 335806 API #: County Name: GARFIELD
Facility Name: N. Parachute EF P27 595 Latitude: 39.579225 Longitude: -108.033122
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SESE Sec: 27 Twp: 5S Range: 95W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE Facility ID: 484126 API #: County Name: GARFIELD
Facility Name: P27-595 (1F-34) Flowline Release Latitude: 39.579245 Longitude: -108.033135
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SESE Sec: 27 Twp: 5S Range: 95W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications GP

Most Sensitive Adjacent Land Use Non-cropland rangeland

Is domestic water well within 1/4 mile? No

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

Groundwater was monitored in a soil boring east of the P27 well pad while the east fork Parachute Creek was flowing. The soil boring was associated with another project. The soil boring was dry to at least 40 feet below ground surface (extent of the soil boring). The P27 well pad is located at an elevation of 30'above the creek bed. This indicates that at the point of release, the depth to groundwater is located greater than 70' below ground surface.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [ ] Oil
  - [ ] 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	Undetermined	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.

Please refer to COGCC Document numbers 403356269 and 403364082 for initial actions taken in support of this project. As described in the attached Site Investigation Report, five confirmation soil samples were collected from the damaged flowline excavation as a part of the initial investigation; additionally composite soil samples were collected from each of two stockpiles onsite. All samples were analyzed for all constituents listed on COGCC Table 915-1.

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):

Following removal of impacted soils identified around the south sidewall and base of the excavation, an appropriate number of confirmation soil samples will be collected and analyzed for an approved suite of analytes set forth by applicable COAs.

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):

As part of this investigation, data from a background soil assessment was used for comparison to pH values and Arsenic concentrations at the Site. A Caerus subcontractor completed a soil boring in native, undisturbed soil in the immediate vicinity of the Site and along the east bank of East Fork Parachute Creek. Additional data was analyzed from the Middle Fork Water Treatment Facility, for comparison to pH values in the production water associated with the Site.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 7

Number of soil samples exceeeding 915-1: 7

NA / ND

-- Highest concentration of TPH (mg/kg): 960.23

-- Highest concentration of SAR: 1.67

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

BTEX > 915-1 Yes

Approximate areal extent (square feet) 100

Vertical Extent > 915-1 (in feet) 5

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

0 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?

[X] Were background samples collected as part of this site investigation?

As part of this investigation, data from a background soil assessment was used for comparison to pH values and Arsenic concentrations at the Site. A Caerus subcontractor completed a soil boring in native, undisturbed soil in the immediate vicinity of the Site and along the east bank of East Fork Parachute Creek. Additional sample data was analyzed from the Middle Fork Water Treatment Facility for comparison to pH values in the production water associated with the Site. Source water analysis indicates a pH value of 6.98 in the produced water.

[X] Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 10

Volume of liquid waste (barrels) 0

[X] Is further site investigation required?

Based on results of the excavation soil sampling, and request to utilize COGCC Residential Soil Screening Level Concentrations, Caerus proposes to delineate the base and south sidewall for remaining impacts associated with the project. Caerus requests a reduced analyte suite for the project to include TPH only, which is in consideration of background soil conditions and source water analysis.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Damaged piping was replaced.

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.

Impacted soils will be removed via hydrovac truck and/or heavy equipment and disposed of at a certified landfill or approved Caerus facility. Field screening via PID and an appropriate number of confirmation soil samples will be collected. Laboratory analysis will be completed to determine successful removal of impacted soils.

Soil Remediation Summary

[ ] **In Situ**

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

[X] **Ex Situ**

- Yes Excavate and offsite disposal
- If Yes: Estimated Volume (Cubic Yards) 10
- Name of Licensed Disposal Facility or COGCC 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:

☐ 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

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: $ 5000

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:

None

Volume of E&P Waste (solid) in cubic yards 10

E&P waste (solid) description Hydrocarbon impacted soils

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Greenleaf Environmental

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

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

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.

Once remediation is complete, Caerus proposes to return the excavation to the active working surface grade for continued operation.

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. 06/30/2023

Proposed date of completion of Reclamation. 06/30/2023

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). 03/26/2023

Proposed site investigation commencement. 04/17/2023

Proposed completion of site investigation. 06/30/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/26/2023

Proposed date of completion of Remediation. 06/30/2023

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

Caerus believes a pathway to groundwater does not exist based on the following reasons and requests use of Table 915-1 Residential SSL cleanup concentrations for future sample comparison:
1) Volume of release <5 bbls
2) Depth to GW >70ft
3) Minimal impacts at 5' below grade
4) Source identified and repaired

Based on lab results from the initial investigation, and in consideration of the request to utilize Table 915-1 Residential SSL standards, Caerus requests a reduced analyte suite for the project to include TPH only.

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

Signed: Steve Sivigliano Title: Environmental Project Mgr

Submit Date: 05/24/2023 Email: steve.sivigliano@camposepc.com

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

COGCC Approved: Steven Arauza Date: 06/29/2023

Remediation Project Number: 30016

COA Type	Description
	Submit Supplemental eForm 19 to request closure of Spill/Release ID #484126. Supplemental report shall comply with outstanding COAs, indicate that work is proceeding under an approved eForm 27 and shall reference the Remediation Project number assigned upon approval of this report.
	Operator shall collect soil samples from areas most likely to be impacted and shall collect an appropriate number of representative soil samples to delineate the horizontal and vertical extents of contamination, per Rule 915.e.(2).B.
	Per Rule 913.b.(2), the Operator will conduct sampling and analysis of soil, and groundwater--if encountered, to determine the horizontal and vertical extent of any contamination in excess of the cleanup concentrations in Table 915-1 for soil and groundwater. The Operator shall analyze samples for the approved analyte suite and shall compare analytical results for site investigation samples to the Table 915-1 Residential Soil Screening Level Concentrations.
3 COAs	

Attachment Check 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
403408053	INVESTIGATION/REMEDIATION WORKPLAN (INITIAL)
403408087	SITE INVESTIGATION REPORT
403449135	FORM 27-INITIAL-SUBMITTED

Total Attach: 3 Files

General Comments

User Group	Comment	Comment Date
Environmental	Based on the information provided under Operator Comment, the Operator's request to utilize the Table 915-1 Residential Soil Screening Levels is conditionally approved.	06/29/2023
Environmental	Based on the information provided for soil samples (doc #403408087), the Operator's request for a reduced analyte suite of TPH (GRO/DRO/ORO)-only is conditionally approved.	06/29/2023

Total: 2 comment(s)