

State of Colorado
Oil and Gas Conservation Commission

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402903787
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02/14/2023
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 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) 285-2925
City: DENVER State: CO Zip: 80202		Mobile: (970) 640-6919
Contact Person: Blair Rollins	Email: brollins@caerusoilandgas.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27507 Initial Form 27 Document #: 402903787

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: _____

SITE INFORMATION

No Multiple Facilities

Facility Type: LOCATION	Facility ID: 335828	API #:	County Name: GARFIELD
Facility Name: N.PARACHUTE-65S95W 27NENW	Latitude: 39.589377	Longitude: -108.044445	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NENW	Sec: 27	Twp: 5S	Range: 95W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use Riparian
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

NA

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- X 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

Table with 4 columns: Impacted?, Impacted Media, Extent of Impact, How Determined. Row 1: UNDETERMINED, SOILS, TBD, 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 number 2605864 for immediate actions taken to abate, investigate, and remediate impacts associated with the historical spill.

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):

Caerus proposes to conduct field investigation and soil sample collection to determine the extent of contamination associated with the project.

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

NA / ND

Number of soil samples collected 18 -- Highest concentration of TPH (mg/kg) 547
 Number of soil samples exceeding 915-1 3 -- Highest concentration of SAR 9.82
 Was the areal and vertical extent of soil contamination delineated? No BTEX > 915-1 No
 Approximate areal extent (square feet) 15000 Vertical Extent > 915-1 (in feet) 2

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?
 Background soil samples were collected in support of this project, and are included in the attached report of work completed.
- 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?
 Caerus proposes to conduct additional assessment of the PH01, PH03, and PH06 areas as outlined in the attached report of work completed.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.
 Caerus proposes to conduct hydrovac activities to remove the impacts associated with the project. Caerus will collect confirmation samples from PH01, PH03, and PH06 to determine the source of impacted material was removed.

REMEDICATION 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.
 Caerus proposes to conduct hydrovac activities to remove the impacts associated with the project. Caerus will collect confirmation samples from PH01, PH03, and PH06 to determine the source of impacted material was removed.

Soil Remediation Summary

- In Situ
 - _____ Bioremediation (or enhanced bioremediation)
 - _____ Chemical oxidation
 - _____ Air sparge / Soil vapor extraction
 - _____ Natural Attenuation
- Ex Situ
 - _____ Yes Excavate and offsite disposal
 - _____ If Yes: Estimated Volume (Cubic Yards) 5
 - _____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
 - _____ No 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.

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: \$ 7500 _____

WASTE DISPOSAL INFORMATION

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

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 _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

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

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.

As the proposed variance request does not include any ground disturbing activities, no reclamation needs are anticipated to be warranted during this project. 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. 08/13/2009

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/21/2021

Proposed site investigation commencement. 09/14/2022

Proposed completion of site investigation. 07/01/2023

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

Caerus previously submitted this Form 27 indicating that we would go down the variance process for the incident due to interim reclamation activities previously conducted on this well pad. The form was returned to draft as this was not a remediation update for the project. Caerus is submitting this Form 27 to provide results of field investigation and plans moving forward for the project.

Caerus requests to utilize the COGCC Table 915-1 Residential Soil Screening Level Concentrations for the C27 Remediation Project based on the following information: The elevation of the Remediation Project is 6,380 feet. The nearest drainage feature is East Fork Parachute Creek which is an intermittent stream located 375 feet to the south at an elevation of 6,360 feet. The nearest groundwater well (NPR7MW) is located 4,150 feet southwest of the project at an elevation of 6,200 feet. The depth to groundwater at NPR7MW is greater than 30 feet below ground surface, documented through regular quarterly sampling events. Based on the site conditions outlined above, Caerus requests to utilize the COGCC Table 915-1 Residential Soil Screening Level Concentrations for the project as there is no reasonable pathway to groundwater at the location of the Remediation Project.

Based on operator knowledge of the incident and most likely source of impact being produced water, Caerus believes the elevated concentrations of pH within the area are not due to oil and gas operations but are rather naturally occurring background concentrations within the area.

Caerus requests to utilize COGCC Table 915-1 Footnotes 1 and 11 for an alternative concentration of arsenic associated with the project.

Based on field investigation and laboratory analytical results from the spill area, Caerus requests a reduced analyte suite of TPH (GRO, DRO, ORO) and SAR. Caerus proposes to conduct additional assessment of the PH01, PH03, and PH06 areas as outlined in the attached report of work completed.

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

Signed: Blair Rollins

Title: EHS Specialist

Submit Date: 02/14/2023

Email: brollins@caerusoilandgas.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: 02/17/2023

Remediation Project Number: 27507

COA Type

Description

	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.
2 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

402903787	FORM 27-INITIAL-SUBMITTED
403320649	SITE INVESTIGATION REPORT

Total Attach: 2 Files

General Comments

User Group

Comment

Comment Date

Environmental	Based on the information provided for confirmation samples (doc #403320649), the Operator's request for a reduced analyte suite of TPH (GRO, DRO, ORO) and SAR is conditionally approved	02/17/2023
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Total: 1 comment(s)