

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

402619378

Receive Date:

03/18/2021

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 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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATION

Name of Operator: CAERUS PICEANCE LLC	Operator No: 10456	Phone Numbers Phone: (970) 778-2314 Mobile: (970) 778-2314
Address: 1001 17TH STREET #1600		
City: DENVER	State: CO Zip: 80202	
Contact Person: Jake Janicek	Email: jjanicek@caerusoilandgas.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 17035

Initial Form 27 Document #: 402582867

PURPOSE INFORMATION

- | | |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water |
| <input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste | <input type="checkbox"/> Rule 906.c.: Director request |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input checked="" type="checkbox"/> Other Site Assessment Proposal |

SITE INFORMATION

N Multiple Facilities (in accordance with Rule 909.c.)

Facility Type: LOCATION	Facility ID: 334872	API #:	County Name: GARFIELD
Facility Name: SAMPLE-67S92W 17SENW		Latitude: 39.444880	Longitude: -107.686440
		** correct Lat/Long if needed: Latitude: 39.444597	Longitude: -107.686826
QtrQtr: NWSE	Sec: 17	Twp: 7S	Range: 92W 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? 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

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
Yes	SOILS	See attached	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.

Please see COGCC Document 402582867 for a description of activities completed prior to 2/4/2021.

Please see the attached document for a summary of activities completed from 2/4/2021 through 2/19/2021.

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):

Discreet soil samples will be used to 1) Delineate the impacts associated with the dumphine release (Spill/Release Point ID 478578), 2) Confirm the successful removal of the impacts described above, and 3) Establish background soil sample concentrations. All future soil samples will be submitted for laboratory analysis of all analytes (arsenic, barium, cadmium, chromium VI, pH, SAR, TPH, BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, flourene, and naphthalene) that samples collected from 2/4/2021 through 2/19/2021 exhibited exceedances for.

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 15

Number of soil samples exceeding 910-1 15

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

Approximate areal extent (square feet) 2500

NA / ND

-- Highest concentration of TPH (mg/kg) 6237

-- Highest concentration of SAR 38.3

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 31

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 910-1

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 910-1

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?

☐ 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?

Soil impacts below the tank battery need to be delineated. This will be completed through using a environmental drilling rig to install boreholes within and outside of the impacted area. This expanded site assessment is currently being coordinated with a third party consultant.

In order to determine if there is a pathway to groundwater and propose relief from Protection of Groundwater Soil Screening Level Concentrations and, pending landowner approval, establish background soil concentrations, two soil borings will be advanced in the area within the former tank battery seen in the aerial on Figure 2 of the attached document and one soil boring will be advanced in an up-gradient undisturbed area southeast of the location. Soil from these soil borings will be field-screened for hydrocarbons and any samples collected will be submitted for laboratory analysis of analytes listed in the "Proposed Soil Sampling" section of this form. This work is scheduled for 3/30/2021 and 3/31/2021.

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.

The source was a failed dumpline which 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.

Once full delineation has been determined, a complete remediation plan will be presented to the COGCC.

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 COGCC Facility ID # _____
- _____ Excavate and onsite remediation
- _____ No Land Treatment
- _____ No Bioremediation (or enhanced bioremediation)
- _____ No Chemical oxidation
- _____ No 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.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other _____

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Soil Assessment Proposal _____

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 744

E&P waste (solid) description Impacted soil

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Greenleaf Environmental Services

Volume of E&P Waste (liquid) in barrels 40

E&P waste (liquid) description impacted soil mixed with hydrovac
rinsate

COGCC Disposal Facility ID #, if applicable: 426582

Non-COGCC Disposal Facility: _____

REMEDATION COMPLETION REPORT

REMEDATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No _____

Do all soils meet Table 910-1 standards? No _____

Does the previous reply indicate consideration of background concentrations? _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? No _____

Does Groundwater meet Table 910-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? No _____

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 delineation is completed, a reclamation plan will be presented to the COGCC.

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 approve the seed mix? _____

If NO, does the seed mix comply with local soil conservation district recommendations? _____

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. 11/17/2020

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/17/2020

Date of commencement of Site Investigation. 11/17/2020

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 01/07/2021

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

The "Sample Summary" section of this form only includes data from samples collected from 2/4/2021 through 2/19/2021.

Waste manifests associated with the 744 cubic yards of impacted material disposed of at Greenleaf Environmental Services will be provided upon request.

Per COA#2 listed on the Initial Form 27 (COGCC Document ID 402582867) associated with project, a Form 42 (COGCC Document ID 402624951) was submitted in order to notify the COGCC of a relocated flowline.

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: 03/18/2021

Email: jjanicek@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: 03/24/2021

Remediation Project Number: 17035

COA Type

Description

	Operator shall submit workplan to address exceedances of Table 915-1 for stockpiled, impacted soil via a Supplemental eForm 27.
	Under, "Is further site investigation required?" Operator indicates plans to advance soil borings "to determine if there is a pathway to groundwater." The Operator shall collect representative samples, provide notification to the COGCC, and comply with Rule 915.e.(3) if groundwater is encountered during soil boring advancement operations.
	Based on the information provided, the Operator's request for a reduced analyte suite (arsenic, barium, cadmium, chromium VI, pH, SAR, TPH, BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, fluorene, and naphthalene) is approved with the following condition: Operator shall include nickel and selenium analysis for all soil samples, based on documented exceedances of Table 915-1 for these analytes in WEST and NORTH samples.

	<p>COGCC GIS Online map system indicates that this project area is located within approximately 400' of Middle Mamm Creek, domestic water well (DWR Permit 168248, Receipt 0347792) located approximately 950' south-southwest of the project area indicates a static water level of approximately 63 feet bgs.</p> <p>Based on the proximity to Waters of the State, surface water and potential shallow groundwater, the Operator shall comply with the Table 915-1 Protection of Groundwater Soil Screening Level Concentrations for delineation and remediation of impacted soil.</p> <p>The Operator may request a modified analyte suite per Rule 915.e.(2).C, based on the results of the pathway to groundwater assessment described under "Is further site investigation required?"</p>
--	--

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.

<u>Att Doc Num</u>	<u>Name</u>
402619378	FORM 27-SUPPLEMENTAL-SUBMITTED
402632755	ANALYTICAL RESULTS

Total Attach: 2 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Attached Analytical Summary Table (Table 2) lists inaccurate COGCC Concentration levels for dibenzo(A,H)anthracene and fluoranthene.	03/24/2021
Environmental	Attached laboratory reports indicate that method detection limits and report detection limits for analysis of hexavalent chromium exceed Table 915-1 Protection of Groundwater Soil Screening Level Concentration (0.00067 mg/kg).	03/08/2021
Environmental	Comply with COAs listed on doc #402582867.	03/08/2021

Total: 3 comment(s)