

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402596959

Receive Date:

02/12/2021

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.

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

### OPERATOR INFORMATION

Name of Operator: CAERUS PICEANCE LLC	Operator No: 10456	<b>Phone Numbers</b> Phone: (970) 285-2925 Mobile: (970) 640-6919
Address: 1001 17TH STREET #1600		
City: DENVER	State: CO Zip: 80202	
Contact Person: Blair Rollins	Email: brollins@caerusoilandgas.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 16867

Initial Form 27 Document #: 402596959

#### 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 checked="" 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 type="checkbox"/> Other _____   |

#### SITE INFORMATION

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

Facility Type: WELL	Facility ID: _____	API #: 045-16079	County Name: GARFIELD
Facility Name: Battlement Mesa 26-13B		Latitude: 39.405814	Longitude: -107.970264
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWSW	Sec: 26	Twp: 7S	Range: 95W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Forest

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

Drainages and ephemeral creeks are present within ¼ mile of the Location. These features are tributaries to Battlement Creek (approximately 0.55 mile to the northeast), Dry Creek (approximately 1.55 miles to the west), and Monument Gulch (approximately 1.2 miles to the north).

# 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
UNDETERMINED	SOILS	To be determined	To be determined by laboratory sample results

## 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 2521261 for immediate actions taken to abate, investigate, and remediate impacts associated with the historical spill.

## 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 ):

Please see the attached 'Spill Investigation Site Diagram' for proposed sample locations. These locations were selected in an effort to identify any soil impacts resulting from the reported spill. At each proposed sample location, two (2) samples will be collected: One between six and 12 inches below ground surface (bgs), and one between 24 and 30 inches bgs. Each collected sample will be analyzed for Table 915-1 constituents of concern, and those results will be reported in a Supplemental Form 27.

### Proposed Groundwater Sampling

☒ Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

If groundwater is encountered at any of the proposed sampling locations, Caerus will attempt to collect a representative groundwater sample for analysis and the finding will be reported in the Supplemental Form 27.

### 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 0

Number of soil samples exceeding 910-1 0

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

Approximate areal extent (square feet) 625

### NA / ND

NA Highest concentration of TPH (mg/kg)

NA Highest concentration of SAR

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

### 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 0

Number of groundwater samples exceeding 910-1 0

NA Highest concentration of Benzene (µg/l)

NA Highest concentration of Toluene (µg/l)

NA Highest concentration of Ethylbenzene (µg/l)

NA Highest concentration of Xylene (µg/l)

NA Highest concentration of Methane (mg/l)

### Surface Water

0 Number of surface water samples collected

0 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?

This Remediation Workplan includes a proposed sampling plan, once approved and weather allows, Caerus will complete the proposed sampling activities and report findings to the COGCC in a Supplemental Form 27.

# REMEDIAL ACTION PLAN

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

If laboratory analyses from the proposed characterization samples identifies soil impacts above allowable limits, additional site investigation activities and remedial actions will be proposed in a Supplemental Form 27.

## 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.

If laboratory analyses from the proposed characterization samples identifies soil impacts above allowable limits, additional site investigation activities and remedial actions will be proposed in a Supplemental Form 27.

## 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  
\_\_\_\_\_ Land Treatment  
\_\_\_\_\_ Bioremediation (or enhanced bioremediation)  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ 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.

If groundwater is encountered, Caerus will attempt to collect a representative groundwater sample for analysis and the finding will be reported in the Supplemental Form 27.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report  
☐ Other \_\_\_\_\_

### 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.

Any disturbance will be returned to the active working surface of the well pad 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 approve the seed mix? ☐ Yes \_\_\_\_\_

If NO, does the seed mix comply with local soil conservation district recommendations? ☐ Yes \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. \_\_\_\_\_

Actual Spill or Release date, if known. 09/01/2010

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 02/10/2021

Date of commencement of Site Investigation. 05/01/2021

Date of completion of Site Investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Date of commencement of Remediation. \_\_\_\_\_

Date of completion of Remediation. \_\_\_\_\_

### SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

**OPERATOR COMMENT**

With Form 27 approval and remediation project number assignment, Caerus requests closure of COGCC Spill Document Number 2521261 as subsequent site investigation and remediation work will be completed under the assigned remediation project number.

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

Signed: ` Adam Roll

Title: Project Scientist

Submit Date: ` 02/12/2021

Email: adam.roll@confluence-cc.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: 02/25/2021

Remediation Project Number: 16867

**COA Type****Description**

	Delineate horizontal and vertical extent of impacted area and remediate impacts to Table 915-1 standards.
	Assess nature and extent of contamination with confirmation soil samples. The operator shall comply with Rule 915.e.(2) for collection of soil samples. The operator shall notify the COGCC and comply with Rule 915.e.(3) if groundwater is encountered during cleanup operations.

**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**

402596959	FORM 27-INITIAL-SUBMITTED
402597036	SITE MAP
402597043	MAP
402597390	SOIL SAMPLE LOCATION MAP

Total Attach: 4 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)