

State of Colorado  
Oil and Gas Conservation Commission

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Document Number:  
402582123  
Receive Date:  
01/26/2021

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>
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@caerusoilandgas.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 16506 Initial Form 27 Document #: 402582123

PURPOSE INFORMATION

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

SITE INFORMATION

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

Facility Type: SPILL OR RELEASE	Facility ID: 478659	API #: _____	County Name: GARFIELD
Facility Name: O19EB Dumpline Release	Latitude: 39.425966	Longitude: -107.704800	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 19	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:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input type="checkbox"/> Other E&P Waste             | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input type="checkbox"/> Oil                       | <input type="checkbox"/> Tank Bottoms                |  |
| <input type="checkbox"/> Condensate                | <input type="checkbox"/> Pigging Waste               |  |
| <input type="checkbox"/> Drilling Fluids           | <input type="checkbox"/> Rig Wash                    |  |
| <input type="checkbox"/> Drill Cuttings            | <input type="checkbox"/> Spent Filters               |  |
|  | <input type="checkbox"/> Pit Bottoms                 |  |
|  | <input type="checkbox"/> Other (as described by EPA) | _____                                  |

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	See attached	Analytical Data

## 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 documents associated with COGCC Spill/Release Point ID 478659 for description of activities completed prior to 1/13/2021.

Please see the attached document for a summary of activities completed on 1/13/2021.

## 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 ):

Please see the "Remediation Summary" section of this form for a proposed sampling plan.

### 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 5  
Number of soil samples exceeding 910-1 1  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 100

### NA / ND

--          Highest concentration of TPH (mg/kg) 6.29  
--          Highest concentration of SAR 34.1  
         BTEX > 910-1 No  
         Vertical Extent > 910-1 (in feet) 6

### 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?

# REMEDIAL ACTION PLAN

## 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.

Based on information presented in the attached document, impacted soil is present from 6.5 feet below pad surface to approximately 7.5 feet below pad surface. The remaining impacted soil will be removed via excavation to a depth of nine feet below pad surface and disposed of at Greenleaf Environmental. In order to confirm the successful removal of all impacted soil, confirmation samples will be collected from below and around the impacted soil. Pending COGCC approval, the soil samples will be submitted for laboratory analysis of the analyte (SAR) that soil sample 20201214-O19EB (POR)@6.5' exhibited exceedances for.

## Soil Remediation Summary

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 10

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Name of Licensed Disposal Facility or COGCC 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.

# 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? 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 \_\_\_\_\_ 0

E&P waste (solid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 100

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

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_ 426582

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.

The excavation will be backfilled to match the pad surface elevation.

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? \_\_\_\_\_

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. 11/26/2020

Actual Spill or Release date, if known. \_\_\_\_\_

## **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 11/26/2020

Date of commencement of Site Investigation. 11/26/2020

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

## **REMEDIAL ACTION DATES**

Date of commencement of Remediation. 12/01/2020

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

## **SITE RECLAMATION DATES**

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

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

**OPERATOR COMMENT**

Per recently enacted COGCC Rule 915.f., Caerus requests that the remaining remediation associated with this project be verified using required analytes and Concentration Levels listed in the previous version of COGCC Table 915-1 which was COGCC Table 910-1. The remediation project associated with this form was created on 11/29/2020. Caerus anticipates completion of the remediation portion of this project by 2/28/2021.

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: 01/26/2021 \_\_\_\_\_

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: 02/01/2021 \_\_\_\_\_

Remediation Project Number: 16506 \_\_\_\_\_

**COA Type****Description**

	Submit Supplemental eForm 19 to request closure of Spill/Release ID #478659. 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.
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**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**

402582123	FORM 27-INITIAL-SUBMITTED
402582132	ANALYTICAL RESULTS

Total Attach: 2 Files

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

Environmental	Based on the anticipated completion date (2/28/2021) provided under Operator Comment, the Operator's request to proceed under Table 910-1 cleanup standards is conditionally approved pursuant to Rule 915.f.	02/01/2021
Environmental	Based on the information provided under Remediation Summary and in the attached report (doc #402582132), the Operator's request for a reduced analyte suite of SAR only is conditionally approved.  The COGCC concurs with the statement included in the attached report that exceedances of Table 910-1 for arsenic appear to be within background concentration levels provided in Table 1.	02/01/2021

Total: 2 comment(s)