

**State of Colorado  
Oil and Gas Conservation Commission**

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Document Number:

402582867

Receive Date:

03/04/2021

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 #: 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 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 checked="" type="checkbox"/> Other Dumpline and Tank Battery Location Change                        |

#### 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:

- |                                                    |                                                      |                                        |
|----------------------------------------------------|------------------------------------------------------|----------------------------------------|
| <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     | 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 402537238 for a description of activities completed prior to 1/8/2021.

Please see the attached document for a summary of activities completed on 1/8/2021.

## 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 ):

Soil samples will be used to 1) Delineate the impacts associated with the dumlaine release (Spill/Release Point ID 478578) and 2) Confirm the successful removal of the impacts described above. All samples will be submitted for laboratory analysis of all analytes listed in COGCC Table 915-1. Please see the attached document for additional information including a diagram of proposed sampling points included as Figure 3 and a procedure to be followed during work associated with item #2 above.

### 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 1

Number of soil samples exceeding 910-1 1

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

Approximate areal extent (square feet) 25

### NA / ND

--          Highest concentration of TPH (mg/kg) 21800

--          Highest concentration of SAR 48.8

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 8

### 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 potholing using a hydrovac and/or a mechanical excavator. Please see the attached document for additional information including a diagram of proposed sampling points included as Figure 3.

# REMEDIAL ACTION PLAN

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The source was a failed dumpline which will be 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.

The initial remediation plan includes the removal of impacted soil to a depth to be determined using safety and landowner considerations. Soil will either be transported offsite for landfill disposal or landfarmed on site. Please see the attached document for additional information.

## 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

- \_\_\_\_\_ 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 \_\_\_\_\_ 40

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.

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**

|  |
|--|
|  |
|--|

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: 03/04/2021 \_\_\_\_\_

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: 03/04/2021 \_\_\_\_\_

Remediation Project Number: 17035 \_\_\_\_\_

**COA Type****Description**

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Per Rule 913.b.(2), Operator shall conduct sampling and analysis of soil pursuant to Rule 915 to determine the horizontal and vertical extent of any contamination in excess of cleanup concentrations in Table 915-1. Operator shall delineate the horizontal and vertical extent of impacts using Table 915-1 Protection of Groundwater Soil Screening Level Concentrations.                                                                                              |
|  | Under Purpose Information, Operator indicates that this Site Investigation and Remediation Workplan includes a "Dumpline and Tank Battery Location Change."<br><br>Operator shall comply with COGCC 1100 Series Flowline Regulations concerning notification and reporting requirements if flowlines are to be abandoned or relocated.                                                                                                                                      |
|  | Under Purpose Information, Operator indicates that this Site Investigation and Remediation Workplan includes a "Dumpline and Tank Battery Location Change."<br><br>If tank battery is to be relocated, Operator shall submit a Form 4 Sundry Notice to the COGCC OGLA for approval prior to reinstallation of equipment. Operator shall include tank battery siting information to demonstrate compliance with COGCC 600-Series Safety and Facility Operations Regulations. |
|  | Operator shall collect sample(s) from comparable, nearby non-impacted native soil for purposes of establishing background soil conditions including pH, electrical conductivity (EC) and sodium adsorption ratio (SAR), per Rule 915.e.(2).D.                                                                                                                                                                                                                               |
|  | If historical impacts are discovered, operator shall report historical impacts via an eForm 19 (Initial w/ Supplemental) and shall collect representative soil samples for the complete Table 915-1 list. This eForm 19 may include a closure request referencing the Remediation Project number assigned upon approval of this report.                                                                                                                                     |
|  | Submit Supplemental eForm 19 to request closure of Spill/Release ID #478578. 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.                                                                                                                                                                                  |

**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**

|           |                           |
|-----------|---------------------------|
| 402582867 | FORM 27-INITIAL-SUBMITTED |
| 402590121 | REMEDIAL ACTION PLAN      |

Total Attach: 2 Files

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

|               |                                                                                                                                              |            |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Environmental | COGCC updated Correct Lat/Long to correspond to tank battery location based on information provided in the attached report (doc #402590121). | 03/04/2021 |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------|

Total: 1 comment(s)