FORM 27 Rev 5/22

# State of Colorado
# Oil and Gas Conservation Commission

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Report taken by: John Heil

## 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 Form27.
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 INFORMATON

Name of Operator: CAERUS PICEANCE LLC Operator No: 10456
Address: 1001 17TH STREET #1600
City: DENVER State: CO Zip: 80202
Contact Person: Jake Janicek Email: jjanicek@caerusoilandgas.com

**Phone Numbers**
Phone: (970) 778-2314
Mobile: (970) 778-2314

## PROJECT, PURPOSE & SITE INFORMATION

### PROJECT INFORMATION

Remediation Project #: 22200 Initial Form 27 Document #: 402865895

### 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.
- [X] 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.
- [X] Other: Closure Request of decommissioned UIC DISPOSAL well (Facility ID:159164) under RN 22200.

### SITE INFORMATION

Yes Multiple Facilities

Facility Type: WELL Facility ID: API #: 103-08181 County Name: RIO BLANCO
Facility Name: U S A PICEANCE CREEK T73-11G Latitude: 39.894750 Longitude: -108.241920
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENE Sec: 11 Twp: 2S Range: 97W Meridian: 6 Sensitive Area? Yes

Facility Type: UIC DISPOSAL Facility ID: 159164 API #: County Name: RIO BLANCO
Facility Name: PICEANCE CREEK UNIT T73X-11G Latitude: 39.894750 Longitude: -108.241920
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SWSE Sec: 11 Twp: 2S Range: 97W 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? 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**

NA

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- [X] **E&P Waste**
  - [X] Produced Water
  - [ ] Oil
  - [ ] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA)
- [ ] **Non-E&P Waste**

## DESCRIPTION OF IMPACT

| Impacted? | Impacted Media | Extent of Impact | How Determined |
|---|---|---|---|
| No | SOILS | 7x15x15 | Field investigation and soil sampling |

## INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&P Waste.

See Colorado Oil and Gas Conservation Commission (COGCC) Document Number 402909193 for initial actions completed associated with the abandonment of the USA PICEANCE CREEK #T73-11G (API# 103-08181) well.

## 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 ):

### 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: 4

Number of soil samples exceeeding 915-1: 4

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet): 400

**NA / ND**

-- Highest concentration of TPH (mg/kg): 325.9

NA Highest concentration of SAR:

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 7

**Groundwater**

Number of groundwater samples collected: 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet):

Number of groundwater monitoring wells installed:

Number of groundwater samples exceeding 915-1:

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 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?

Three additional background soils samples were collected on non-impacted native soil for the purpose of establishing background soil concentrations for Table 915-1 analytes.

☐ 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

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.

Since the impacts are considered historical, no source can be identified.

## 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.

No further remediation is necessary associated with the decommissioning of disposal well UIC DISPOSAL (Facility ID: 159164) API Number 103-08181 under COGCC RN 22200.

All impacted soil from the disposal well was removed and confirmation soil samples were collected from all sidewalls, the base, and the stockpile of material removed to access the well for abandonment purposes. All confirmation soil samples were within COGCC Table 915-1.

In order to address the elevated pH concentrations of the five soil samples collected from each sidewall and base on November 19, 2021, Caerus requests that these values be considered as naturally occurring. Although these five pH values range from 8.36 to 8.69 and are elevated with respect to the COGCC Table 915-1 CC criteria of 8.3, these elevated values should not be considered elevated as a result of the byproduct of oil and gas production activities associated with the UIC DISPOSAL well. Based on produced water quality data collected from the Black Sulfur Facility (BSF) which receives produced water from the USA PICEANCE CREEK T73-11G location, the soil pH value is greater than the produced water pH value generated at the Site. The pH value of produced water sample collected from the outlet at the BSF on September 14, 2021 was 6.81. Based on the pH value of the produced water sample, Caerus believes the elevated pH values in the confirmation soil samples are not associated with the former UIC DISPOSAL well and are not a result of oil and gas production activities but are rather naturally occurring background concentrations within the area.

Please see the attached ROWC for more specific details pertinent to the remediation/closure activities of the disposal well UIC DISPOSAL (Facility ID: 159164) API Number 103-08181.

## Soil Remediation Summary

☐ **In Situ**

- ____ Bioremediation ( or enhanced bioremediation )
- ____ Chemical oxidation
- ____ Air sparge / Soil vapor extraction
- ____ Natural Attenuation
- ____ Other ____

☒ **Ex Situ**

- Yes Excavate and offsite disposal
  - If Yes: Estimated Volume (Cubic Yards) 3
  - 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.

Groundwater was not encountered during decommissioning assessment activities of the UIC DISPOSAL well.

# REMEDIATION PROGRESS UPDATE

## PERIODIC REPORTING

**Approved Reporting Schedule:**

☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other: Closure Request of decommissioned UIC DISPOSAL well (Facility ID:159164) under RN 22200.

☐ **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.

Based on analytical data collected from soil samples collected at the site, no further remediation is necessary.

Until Caerus submits a Financial Assurance Plan required by Rule 702, due September 15, 2022, the bond covering the remediation of this well/location will be covered under 20130021.

Operator anticipates the remaining cost for this project to be: $ 0

## 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: 20

E&P waste (liquid) description: Hydrovac rinseate mixed with impacted soils

COGCC Disposal Facility ID #, if applicable: 426582

Non-COGCC Disposal Facility:

# REMEDIATION COMPLETION REPORT

## REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

If YES:

☒ Compliant with Rule 913.h.(1).

☐ Compliant with Rule 913.h.(2).

☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Does Groundwater meet Table 915-1 standards? Yes

Is additional groundwater monitoring to be conducted?

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

# 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 wellhead excavation area will be returned to grade with suitable material in preparation for final reclamation activities pursuant to the COGCC 1000 series rules.

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? No

If YES, does the seed mix comply with local soil conservation district recommendations?

Did the local soil conservation district provide the seed mix? No

## 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.

Actual Spill or Release date, or date of discovery.

## SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/19/2021

Proposed site investigation commencement. 11/19/2021

Proposed completion of site investigation. 05/17/2022

## REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/17/2022

Proposed date of completion of Remediation. 05/17/2022

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

The impacted soil observed along north sidewall and the base of the wellhead footprint via sampling event on 11/19/2021 was confirmed removed via sampling event on 5/17/2022. Pending the COGCC's approval, the soil removed to access the wellhead for abandonment purposes prior to the initial sampling event on 11/19/2021 will be used to backfill the associated excavation footprint.

Caerus request the Director for “No Further Action” designation associated with the decommissioning of disposal well UIC DISPOSAL (Facility ID: 159164) API Number 103-08181 at the USA PICEANCE CREEK-62S97W/11SENE (Location ID: 315260) pad location under COGCC RN 22200. The other designations (Facility ID:117250) will be closed under a separate assessment report/F27 submittal.

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

Signed: Dustin Held Title: Sr. Consultant, Geologist

Submit Date: 07/07/2022 Email: dustin.held@wsp.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: John Heil Date: 07/08/2022

Remediation Project Number: 22200

## Condition of Approval

| COA Type | Description |
|---|---|
| | Based on a review of the information provided, it appears that no further action is necessary at this time and COGCC approves the closure request. Should conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards, or, if groundwater is found to be significantly impacted, further investigation and/or remediation activities may be required at the site. |

1 COA

## 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 |
|---|---|
| 403086585 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403099052 | SITE INVESTIGATION REPORT |

Total Attach: 2 Files

## General Comments

| User Group | Comment | Comment Date |
|---|---|---|
| | | Stamp Upon Approval |

Total: 0 comment(s)