

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

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403240394

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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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

**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 #: 25278 Initial Form 27 Document #: 403125685

**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.
- 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.
- Other: Closure Request of Decommissioned Wellhead and Associated Equipment (Location Facility ID: 316627)

**SITE INFORMATION**

Yes  Multiple Facilities

Facility Type: WELL	Facility ID: _____	API #: 103-10991	County Name: RIO BLANCO
Facility Name: FEDERAL 2S-95-16-24AP	Latitude: 39.870913	Longitude: -108.063682	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 16	Twp: 2S	Range: 95W Meridian: 6 Sensitive Area? No

Facility Type: LOCATION	Facility ID: 316627	API #: _____	County Name: RIO BLANCO
Facility Name: FEDERAL-62S95W 16SESW	Latitude: 39.870917	Longitude: -108.063675	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESW	Sec: 16	Twp: 2S	Range: 95W Meridian: 6 Sensitive Area? No

## SITE CONDITIONS

General soil type - USCS Classifications GM \_\_\_\_\_

Most Sensitive Adjacent Land Use Rangeland-BLM

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:

- 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
No	SOILS	9x30x12	Soil Sampling/Laboratory Analytical

## 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 403125685 for initial actions completed associated with the facility decommissioning activities of production well FEDERAL 2S-95-16-24AP (API# 103-10991) and associated production equipment.

On October 6, 2022, five confirmation soil samples were collected from the base and sidewalls of the decommissioned wellhead excavation per COGCC Rule 913.c.(9). The base confirmation soil samples was collected immediately adjacent to the decommissioned wellhead and one sidewall confirmation soil sample was collected from each exposed wall of the wellhead excavation footprint. Sample depths ranged from 6.5 feet below ground surface (bgs) to 8.5 feet bgs.

On November 9, 2022, an additional two confirmation soil samples were collected post subsequent excavation to remove remaining impacts observed at the base and along with west sidewall of the decommissioned wellhead footprint. One subsequent confirmation soil sample was collected immediately adjacent to the decommissioned wellhead at 9.5 feet bgs and one sidewall samples was collected from the west exposed sidewall of the excavation footprint at 8 feet bgs.

The attached report of work completed (ROWC) details the initial and subsequent wellhead decommissioning activities and associated results with the closure of the decommissioned wellhead ( Facility ID: 289234) American Petroleum Institute (API) Number 103-10991 and associated production equipment (Location Facility ID: 316627).

## 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 10  
Number of soil samples exceeding 915-1 4  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 360

### NA / ND

-- Highest concentration of TPH (mg/kg) 3384  
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 site-specific background soil samples were collected from non-impacted native soil for the purpose of establishing background soil concentrations for Table 915-1 analytes per COGCC Rule 915.e.(2).D.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 85 Volume of liquid waste (barrels) 0

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. Caerus assumes that the historical impacts around the wellhead were a result of drilling activities and that they are residual and not from an actual upset or incident.

### REMEDICATION 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 decommissioned wellhead (Facility ID: 289234 and API# 103-10991) and associated production equipment (Location Facility ID: 316627) under Remediation Project Number (RPN) 25278.

All impacted soil immediately surrounding the decommissioned wellhead was removed and confirmation soil samples were collected from all sidewalls, the base, and the stockpile of the material removed from around and beneath the decommissioned well. Three of the five initial decommissioned wellhead confirmation soil samples were within COGCC Table 915-1 acceptable levels [20221006-FED 2S(WH-NWALL)@6.5', 20221006-FED 2S(WH-EWALL)@7', and 20221006-FED 2S(WH-SWALL)@6.5']. The two excavation wellhead confirmation soil samples collected on November 9, 2022 post excavation activities from the base and along the west sidewall were within COGCC Table 915-1 acceptable levels [20221109-FED 2S(WH-BASE)@9.5' and 20221109-FED 2S(WH-WWALL)@8']. Two of the three stockpile soil samples collected [20221007-FED 2S(STK02) and 20221007-FED 2S(STK03)] from the material removed to access the well for abandonment purposes exceeded the COGCC Table 915-1 acceptable levels. All stockpiled material (approximately 80 cubic yards) associated with the decommissioned wellhead excavation representative of soil stockpile samples [20221007-FED 2S (STK02) and 20221007-FED 2S(STK03)] along with soil excavated from the wellhead (base and west sidewall) on November 9, 2022 (approximately 5 cubic yards) will be disposed of at the Wray Gulch Landfill in Rio Blanco County under Special Waste Identification Number P221021.

Please see the attached ROWC for additional initial and subsequent investigative activities associated with the decommissioned wellhead (Facility ID: 289234 and API# 103-10991).

### Soil Remediation Summary

In Situ

Ex Situ

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

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

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

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 85

\_\_\_\_\_ 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

### Approved Reporting Schedule:

Quarterly    Semi-Annually    Annually    Other

Closure Request of Decommissioned Wellhead and Associated Equipment (Location Facility ID: 316627)

### 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.

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: \$ 5000 \_\_\_\_\_

## 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 \_\_\_\_\_ 85

E&P waste (solid) description   Excavated soil and rock removed from decommissioned well footprint.

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

Non-COGCC Disposal Facility: Wray Gulch Landfill - Rio Blanco - Waste Approval ID# P221021

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 25

E&P waste (liquid) description   Hydro-vac 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 decommissioned 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? \_\_\_\_\_

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? \_\_\_\_\_

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

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### 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). 06/30/2022

Proposed site investigation commencement. 08/22/2022

Proposed completion of site investigation. 10/07/2022

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 11/09/2022

Proposed date of completion of Remediation. 11/09/2022

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 at the base and along the west sidewall of the wellhead excavation footprint from sampling event completed on 10/6/2022 was confirmed removed via sampling event on 11/9/2022. All excavated and stockpiled material (approximately 80 cubic yards) associated with the decommissioned wellhead excavation representative of soil stockpile samples [20221007-FED 2S(STK02) and 20221007-FED 2S(STK03)] along with the material removed on November 9, 2022 (approximately 5 cubic yards) will be transported and disposed of at the Wray Gulch Landfill in Rio Blanco County under Special Waste Identification Number P221021.

Based on the information provided Caerus request the COGCC Director for a "No Further Action" designation under this RPN associated with the decommissioning of production well FEDERAL 2S-95-16-24AP (Facility ID: 289234) American Petroleum Institute (API) Number 103-10991 and associated production equipment at the FEDERAL-62S95W /16SESW (Location Facility ID: 316627) pad location under COGCC RPN 25278.

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: 11/30/2022

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: Steven Arauza

Date: 12/23/2022

Remediation Project Number: 25278

**COA Type****Description**

	Based on review of information presented it appears that no further action is necessary at this time, and COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if surface and/or ground water is found to be impacted, then further investigation and/or remediation activities will be required at the site. In addition, the non-working surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules including the establishment of vegetative cover on non-cropland and successful growth on cropland. Landowner must approve reclamation of cropland.
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**

403240394	FORM 27-SUPPLEMENTAL-SUBMITTED
403244988	REMEDATION PROGRESS REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)