

State of Colorado Oil and Gas Conservation Commission

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Report taken by:

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	Phone Numbers
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 #: 20584 Initial Form 27 Document #: 402845415

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: Q2 2023 Status Update to Remediation Project Number (RPN) 20584

SITE INFORMATION

No Multiple Facilities

Facility Type: SPILL OR RELEASE	Facility ID: 480751	API #:	County Name: GARFIELD
Facility Name: KRK 7-7A Dumlaine	Latitude: 39.463069	Longitude: -107.702139	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SENE	Sec: 7	Twp: 7S	Range: 92W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications ML Most Sensitive Adjacent Land Use Agriculture/Rangeland

Is domestic water well within 1/4 mile? Yes 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

Well Permit # 64199- for Domestic, Live Stock use.

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
Yes	SOILS	Undetermined	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.

All initial spill characterization and results can be referenced in Initial Site Investigation and Remediation Workplan Form 27 Document Number (DN) 402845415.

On June 8-9, June 12-16, and June 19-20, 2023, excavation oversight was completed to remove previously delineated in-situ hydrocarbon impacts to soils associated with the KRK 7-7A Dumplene Release as outlined in DN 403023769. From June 19 through 22, 2023, a total of 10 confirmation soil samples were collected to confirm removal of impacted soils. Two confirmation soil samples each were collected from the western portion of the west and north sidewalls at 20 feet and 30 feet below ground surface (bgs), and one confirmation soil sample each was collected from the western portion of the east and south sidewalls and the base of the excavation ranging from 30 feet to 32 feet bgs. Three additional confirmation soil samples were collected at 20 feet bgs, two from the south sidewall and one from the base of the excavation. Excavation activities were guided by regular soil screening throughout the excavation as advanced through visual inspection to determine the presence or absence of hydrocarbon odors and/or staining and through field screening the soil head space using a photoionization detector (PID) to monitor for the presence or absence of volatile organic compounds (VOCs), indicating if the soil was impacted. All samples were submitted under a previously reduced suite (DN 403104348).

On July 1, 2023, four 5-point aliquot confirmation soil samples were collected from the landfarm cells at location. Three of the four cells consisted of approximately 500 cubic yards (per approved DNs 403023769 and 403024689) and the fourth cell consisted of approximately 77 cubic yards. Each aliquot sample was collected using a hand auger at approximately half the thickness of each stockpile cell (at a depth of approximately 2 feet).

Please see the attached report of work (ROWC) completed for additional remedial details.

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):

Caerus will continue to complete routine turning and confirmation soil sampling of the estimated 500 cubic yards of impacted material remaining within the bermed landfarm footprint associated with STOCK02 cell. All confirmation soil samples will be comprised of 500 cubic yards or less of material. The confirmation samples from each 500 cubic yard cell will be 5-point composite samples and each of the aliquots will be collected at approximately half the thickness of each stockpile cell. The previous approved landfarm sampling plan can be referenced in DNs 403023769 and 403024689. Caerus requests that all future samples collected within the STOCK02 cell be analyzed only for the analytes (TPH) that exceeded the applicable standard during the 7/1/2023 sampling event mentioned above.

Please see the attached ROWC for additional details.

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):

Please reference the "Proposed Soil Sampling Section" for additional investigative actions.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 14

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 2957

NA / ND

-- Highest concentration of TPH (mg/kg) 449

NA Highest concentration of SAR

BTEX > 915-1 No

Vertical Extent > 915-1 (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

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?

Please reference DNs 402845415 and 403104348 for site-specific background sampling details.

☐ 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?

Please see "Proposed Soil Sampling" section of this form for details.

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.

The source is a 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 the excavation confirmation soil sample results of samples collected from the sidewalls and base of the open excavation between June 19 and June 22, 2023, Caerus requests the Director of approval use the non-impacted stockpiled soil and all landfarm soil confirmed compliant (STOCK01, STOCK03, and STOCK04) to backfill the open excavation. Once the excavation is backfilled with the non-impacted and compliant soils, the one remaining cell STOCK02 will be spread out within the landfarm footprint over a larger area as to expel the volatiles in the soil at a faster rate. All land farmed soil representative of STOCK02 (approximately 500 cubic yards) will continue to be stored in a earthen containment berm on the working surface of the pad until confirmed compliant through laboratory analysis.

Remediation of the impacted excavated soils contained in an earthen bermed containment from the KRK 7-7A Dumpline Release is ongoing. Caerus will continue to complete routine turning and compliance confirmation soil sampling of the estimated 500 cubic yards of impacted material within the bermed landfarm footprint associated with STOCK02 cell. All confirmation soil samples will be comprised of 500 cubic yards or less of material. The confirmation samples from each 500 cubic yard cell will be 5-point composite samples and each of the aliquots will be collected at approximately half the thickness of each stockpile cell. The previous approved landfarm sampling plan can be referenced in DNs 403023769 and 403024689. Caerus requests that all future samples collected within the STOCK02 cell be analyzed only for the analytes (TPH) that exceeded the applicable standard during the 7/1/2023 sampling event mentioned in the "Initial Action Summary" Section of this form.

Please see the attached ROWC for additional details.

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 # _____

Yes _____ Excavate and onsite remediation

Yes _____ Land Treatment

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

No _____ 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

☐ 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.

Per Rule 705.b, and in line with guidance laid out in the SBAP, Caerus has general liability insurance in the amount of \$1M, and Caerus has umbrella insurance, which sits over the general liability insurance in the amount of \$75M. The umbrella and general liability insurance covers property damage, bodily injury to third parties, and sudden or accidental pollution under a combined \$76M.

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

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:

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No ☐

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?

Does the previous reply indicate consideration of background concentrations?

Does Groundwater meet Table 915-1 standards? _____

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 excavation will be backfilled as proposed above to match the existing pad surface elevation.

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. 09/07/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/05/2021

Proposed site investigation commencement. 11/03/2021

Proposed completion of site investigation. 01/06/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/08/2023

Proposed date of completion of Remediation. _____

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

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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: _____

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: _____

Date: _____

Remediation Project Number: 20584

COA Type**Description**

0 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**

403470108	REMEDIATION PROGRESS REPORT
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)