

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401721776

Receive Date:

08/03/2018

Report taken by:

Stan Spencer

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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATION

Name of Operator: CAERUS PICEANCE LLC	Operator No: 10456	Phone Numbers
Address: 1001 17TH STREET #1600		Phone: (970) 285-2739
City: DENVER	State: CO Zip: 80202	Mobile: (970) 987-4650
Contact Person: Brett Middleton	Email: bmiddleton@caerusoilandgas.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 9490 Initial Form 27 Document #: 2211267

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 type="checkbox"/> Other _____ |

SITE INFORMATION

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

Facility Type: LOCATION	Facility ID: 335013	API #: _____	County Name: GARFIELD
Facility Name: Riley 1	Latitude: 39.441860	Longitude: -108.138610	
** correct Lat/Long if needed: Latitude: 39.450371		Longitude: -108.132837	
QtrQtr: NWNW	Sec: 17	Twp: 7S	Range: 96W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications OL Most Sensitive Adjacent Land Use RANGELAND

Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

No water wells within 1/4 mile, Riley Gulch is adjacent to the site.

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) produced water impacted soils

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	30' X 30' X 32' BGS	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.

Please refer to the previous Form 27, COGCC Document Number 2521303 (Remediation #5224).

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):

This site has been fully investigated, Grab samples will be collected from the 4 side walls and 2 samples from the bottom of the excavation to ensure compliance with COGCC table 910-1 is met.

Proposed Groundwater Sampling

☐ Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

no ground water is expected to be encountered

Proposed Surface Water Sampling

☐ Will surface water samples be collected as part of this investigation? (Number, analyses, and locations of samples):

no surface water is expected to be encountered

Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan (summary):

this site has been delineated by numerous borings we will be excavating the impacts in a simple dig and haul project

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 15

Number of soil samples exceeding 910-1 0

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

Approximate areal extent (square feet) 1200

NA / ND

-- Highest concentration of TPH (mg/kg) 486

-- Highest concentration of SAR 2.2

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 32

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 0'

Number of groundwater monitoring wells installed 4

Number of groundwater samples exceeding 910-1 0

NA Highest concentration of Benzene (µg/l)

NA Highest concentration of Toluene (µg/l)

NA Highest concentration of Ethylbenzene (µg/l)

NA Highest concentration of Xylene (µg/l)

NA 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

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 impacted soils will be excavated and hauled under manifest to Piceance Creek Disposal Facility owned by Dalbo Holdings Inc. located in Meeker Colorado, facility ID 07RB0987 for disposal.

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.

This site has been under active remediation previously Cool-ox was initially used and more recently Biovent/SVE have been in use. Caerus will be excavating the impacted soils and haul them to landfill for disposal. Approximately 1242 cu. yards were disposed of to RNI's Piceance Creek disposal facility in Meeker Colorado under manifest. The excavation was sampled on the side walls and at the base of the excavation to ensure compliance with COGCC table 910-1. The excavation area was backfilled with clean fill material from the area around the site. Initial site clearance sample S Wall (South Wall) sample was 2120 mg/kg TPH the site was then further excavated and the follow up sample was nondetect for TPH.

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) 1206
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

No _____ Bioremediation (or enhanced bioremediation)
No _____ Chemical oxidation
No _____ Air sparge / Soil vapor extraction
No _____ Natural Attenuation
No _____ 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.

An attempt was made to sample the monitoring wells and they were dry. Due to multiple failed attempts to sample the monitoring wells over the past years Caerus request the COGCC allow plug and abandonment of the monitoring wells.

REMEDATION 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:

Impacted soils from the historic spill were excavaed and disopsed of at a commercial landfill.

Volume of E&P Waste (solid) in cubic yards 1242

E&P waste (solid) description excavated impacted soils from a previous spill

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: RNI Piceance Creek disposal facility

Volume of E&P Waste (liquid) in barrels 0

E&P waste (liquid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

REMEDATION COMPLETION REPORT

REMEDATION COMPLETION SUMMARY

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

Do all soils meet Table 910-1 standards? Yes _____

Does the previous reply indicate consideration of background concentrations? Yes _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? No _____

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 SURFACE AREA IMPACTED BY THIS PROJECT IS LOCATED ON AN EXISTING PAD'S WORKING SURFACE AND WILL NOT NEED TO BE RECLAIMED UNTIL FINAL RECLAMATION.

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. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). _____

Date of commencement of Site Investigation. _____

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/09/2018

Date of completion of Remediation. 07/27/2018

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

attn: Steven Aruaza

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

Signed: Brett Middleton

Title: SR. Env. Specialist

Submit Date: 08/03/2018

Email: bmiddleton@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 Aruaza

Date: 09/05/2018

Remediation Project Number: 9490

COA Type

Description

	Based upon review of the available information, the COGCC does not approve of the operator's request for No Further Action at this time. Additional information is required to address potential groundwater impacts.
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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

401721776	FORM 27-SUPPLEMENTAL-SUBMITTED
401722018	ANALYTICAL RESULTS
401722019	ANALYTICAL RESULTS
401724231	SOIL SAMPLE LOCATION MAP
401724232	SOIL SAMPLE LOCATION MAP
401724233	ANALYTICAL RESULTS
401724235	ANALYTICAL RESULTS
401724307	DISPOSAL MANIFESTS
401724311	DISPOSAL MANIFESTS
401724315	DISPOSAL MANIFESTS

Total Attach: 10 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	<p>Approval of this eForm 27 does not constitute COGCC approval of operator's request for No Further Action. Updated Remediation Completion Report to remove Final Closure Request. Updated Project Purpose to remove Rule 909.e.(2).B Closure Request.</p> <p>COGCC does not concur with Operator's assertion that the extent of groundwater contamination has been adequately delineated, based on the following:</p> <ol style="list-style-type: none"> 1) Groundwater analytical results document benzene impacts exceeding Table 910-1 criteria (doc #2212241) in 2010. 2) Groundwater elevation data has not been provided with groundwater quarterly sampling results. 3) Initial Remediation Workplan was approved in 2016 under the condition that monitoring wells be sampled for BTEX, DRO, and GRO on a quarterly basis (doc #2211367). 4) Operator's response to 2016 COGCC COAs (doc #2212239) does not provide technical basis or documentation for COGCC to waive quarterly sampling requirement. 	09/05/2018
Environmental	<p>COGCC approved operator's request to plug and abandon monitor wells during 8/9/2018 meeting with operator. Information submitted in this report (doc #401721776) demonstrates 910-1 compliance for excavation area and disposal of impacted soil.</p> <p>Groundwater analytical results (doc #2212241) document benzene impacts for samples collected from SB01 in February and April of 2010. Samples were ND for benzene in April and June of 2011.</p>	09/04/2018

Total: 2 comment(s)