

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401412080

Receive Date:

Report taken by:

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	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 #: Initial Form 27 Document #: 401412080

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: SPILL OR RELEASE	Facility ID: 452145	API #:	County Name: GARFIELD
Facility Name: K35 CDP Pipeline	Latitude: 39.653930	Longitude: -108.142341	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWSW	Sec: 35	Twp: 4S	Range: 96W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SP

Most Sensitive Adjacent Land Use Agricultural grazing land

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? Yes

Other Potential Receptors within 1/4 mile

The COGCC mapping website has a blue line (Waters of the State) within a 1/4 mile of the point of release but the area referenced is dry and in a vegetated drainage.

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	site investigation plan

INITIAL ACTION SUMMARY

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

The pipeline was shut-in, the point of release area was excavated, the pipeline was repaired and initial samples were collected from the open excavation.

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):

Excavation occurred at the point of release and the pipeline was repaired. While the excavation was open samples were collected from below the point of release and in the down gradient extent of the excavation to a max depth of 15 feet. These initial analysis indicated impacts exceeding table 910-1 for organic and in-organic compounds. The site investigation plan identifies 6 boring locations 3 on the ridge and 3 in the valley. Samples will occur from areas identified in the field as impacted and a sample will be collected from below the impacts as a point of compliance. Depending on depth of impacts a minimum of 2 grab samples will be collected from the soil borings these soils will be analyzed for 910-1 constituents. see attached site diagram.

Proposed Groundwater Sampling

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

A water sample was collected from the permitted water well (20170913- ENPR-5WW) 4500ft down gradient of the spill area. The drilling investigation plan has 3 of the identified soil boring locations as potential monitoring wells if groundwater is 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 has been identified in the area of investigation.

Additional Investigative Actions

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

Additional investigation may occur pending future analysis. Soil borings and monitoring wells maybe added, moved or removed based on additional information acquired during the site investigation.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 5
Number of soil samples exceeding 910-1 5
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 250

NA / ND

-- Highest concentration of TPH (mg/kg) 78300
-- Highest concentration of SAR 48
BTEX > 910-1 Yes
Vertical Extent > 910-1 (in feet) 15

Groundwater

Number of groundwater samples collected 1
Was extent of groundwater contaminated delineated? No
Depth to groundwater (below ground surface, in feet) 25
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 910-1 0

ND Highest concentration of Benzene (µg/l)
ND Highest concentration of Toluene (µg/l)
ND Highest concentration of Ethylbenzene (µg/l)
ND Highest concentration of Xylene (µg/l)
-- Highest concentration of Methane (mg/l) 0.002
5

Surface Water

0 Number of surface water samples collected
0 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?

see site investigation drilling plan

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

A source removal plan will be identified after site investigation is complete.

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.

A remediation plan will be developed after site investigation is complete and area of impact is delineated.

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? _____

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

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: _____

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.

A reclamation plan will be developed after site investigation is complete and a remediation plan is in place.

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). 10/09/2017

Date of commencement of Site Investigation. _____

Date of completion of Site Investigation. _____

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Attn: Carlos Lujan

Water Quality analysis is included from the water well 4500 feet down gradient of the point of release sample ID 20170913- ENPR-5WW.

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: _____

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: _____

Date: _____

Remediation Project Number: _____

COA Type**Description**

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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**

401412712	REMEDIAL ACTION PLAN
401412768	MAP
401412782	ANALYTICAL RESULTS

Total Attach: 3 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)