

State of Colorado
Oil and Gas Conservation Commission

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Document Number:

401479264

Receive Date:

12/07/2017

Report taken by:

CARLOS LUJAN

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			
City: DENVER	State: CO	Zip: 80202	
Contact Person: Jake Janicek		Email: jjanicek@caerusoilandgas.com	
			Phone: (970) 285-2720
			Mobile: (970) 778-2314

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 10793

Initial Form 27 Document #: 401479264

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: 452867	API #: _____	County Name: GARFIELD
Facility Name: H2-797 Flowline Release		Latitude: 39.475830	Longitude: -108.180000
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: 66	Sec: 2	Twp: 7S	Range: 97W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications GW

Most Sensitive Adjacent Land Use Non-crop land
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

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	70' by 60' by 5'	Laboratory analytical results

INITIAL ACTION SUMMARY

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

The flowline was isolated and impacted soil was assessed and excavated using field screening methods. Please see attached spill investigation narrative.

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):

Please see attached spill investigation narrative.

Proposed Groundwater Sampling

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

Groundwater is not anticipated and was not identified during remediation activities. Please see attached spill investigation narrative.

Proposed Surface Water Sampling

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

Caerus will assess seep/spring and surface water features during the spring and summer of 2018 to identify any water features within the immediate area of the H2-797 well pad. In the event that surface water is identified, Caerus will collect water samples to be analyzed for COGCC Table 910-1 water analytes.

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 7

Number of soil samples exceeding 910-1 1

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 420

NA / ND

-- Highest concentration of TPH (mg/kg) 10600

-- Highest concentration of SAR 35

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 5

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 50'

Number of groundwater monitoring wells installed 0

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

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) 500

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Caerus will collect surface water samples from any identified surface water features within the immediate area of the H2-797 well pad during spring and summer of 2018.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Please see attached spill investigation narrative.

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.

Please see attached spill investigation narrative.

Soil Remediation Summary

☒ **In Situ**

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

No Air sparge / Soil vapor extraction

Yes Natural Attenuation

No Other _____

☒ **Ex Situ**

No Excavate and offsite disposal

If Yes: Estimated Volume (Cubic Yards) _____

Name of Licensed Disposal Facility or COGCC Facility ID # _____

Yes Excavate and onsite remediation

No Land Treatment

No Bioremediation (or enhanced bioremediation)

No Chemical oxidation

Yes Other Currently staging awaiting laboratory analytical results _____

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.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Summer 2018 surface water assessment

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Spring and summer surface water assessment

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:

The spoils pile from the excavation is currently staged on the well pad location. Soil samples have been collected to identify any exceedances to COGCC Table 910-1 standards. Once soil sample results have been received, Caerus will provide them to the COGCC under Form 4 Sundry Notice.

Volume of E&P Waste (solid) in cubic yards 500

E&P waste (solid) description NA

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: NA

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

E&P waste (liquid) description NA

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: NA

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 was backfilled to the previous elevation of the active working surface of the well pad for current and future use.

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 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). 10/31/2017

Date of commencement of Site Investigation. 10/31/2017

Date of completion of Site Investigation. 11/09/2017

REMEDIAL ACTION DATES

Date of commencement of Remediation. 11/01/2017

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

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 Lead

Submit Date: ` 12/07/2017

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: CARLOS LUJAN

Date: 12/15/2017

Remediation Project Number: 10793

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**

401479264	FORM 27-INITIAL-SUBMITTED
401479373	ANALYTICAL RESULTS
401479374	ANALYTICAL RESULTS
401479375	ANALYTICAL RESULTS
401479377	SITE INVESTIGATION REPORT
401479858	MAP

Total Attach: 6 Files

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

Environmental	If spoils currently stock piled onsite have HC concentrations Table 910-1 values and Caerus decides to landfarm the impacted material onsite (versus disposing of it in a landfill), a Land Application Facility ID# will be generated by COGCC staff and Caerus will submit an E&P waste management plan, describing in detail the landfarm operation including construction of berms, minimization of soil permeability to prevent groundwater contamination, and frequency of tiling, amendment, and watering, as well as an estimated time to complete the landfarm operation. A financial assurance may be requested.	12/15/2017
Environmental	Submit supplemental e-form 19 to close spill report.	12/15/2017
Environmental	Submit all documentation and analytical results via supplemental e-form 27 (not e-form 04s) so that all information is available under the remediation project.	12/15/2017

Total: 3 comment(s)