

State of Colorado Oil and Gas Conservation Commission

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401784284

Receive Date:

10/04/2018

Report taken by:

Steven Arauza

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 Phone: (970) 285-2739 Mobile: (970) 987-4650
Address: 1001 17TH STREET #1600		
City: DENVER	State: CO Zip: 80202	
Contact Person: Brett Middleton	Email: bmiddleton@caerusoilandgas.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11913

Initial Form 27 Document #: 401784284

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: 457694	API #: _____	County Name: GARFIELD
Facility Name: West Fork 3-Phase Line		Latitude: 39.584419	Longitude: -108.115555
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: NWSE	Sec: 25	Twp: 5S	Range: 96W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications GM

Most Sensitive Adjacent Land Use Non crop land

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

There is a pond immediately down gradient of the point of release sample data indicates no impact. see documnet # 401780303 for analytical data.

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	sample analysis

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 and excavate to identify point of release. The excavated soils were stockpiled and placed on a liner on the J25A well pad. Due to incoming weather the stockpile was covered with liner to prevent migration if soil impacts are present.

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):

Soil samples were collected from the excavation at the sidewalls and the bottom of the excavation below the failure point. Additionally a trench was excavated between the pond and the point of release to sample subsurface soils for potential impacts.

Caerus is proposing drilling 3 initial soil borings/monitoring well in the vicinity of the point of release, an additional three locations have been identified for soil borings/monitoring well installation if Caerus deems necessary to continue assessing.

Proposed Groundwater Sampling

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

Groundwater has been sampled from the Solvay water well at 0.36 miles away and from a Caerus upgradient monitoring well. Caerus also has a downgradient monitoring well however do to low water it is currently dry. see document# 401780303

Proposed Surface Water Sampling

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

Samples were taken from Middle Fork Creek down gradient of the point of release, West Fork Creek is dry at the point of release. Pond samples were collected from the irrigation pond immediately down gradient of the point of release. see document# 401780303

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 2

Number of soil samples exceeding 910-1 2

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

Approximate areal extent (square feet) 100

NA / ND

-- Highest concentration of TPH (mg/kg) 42900

-- Highest concentration of SAR 48

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 15

Groundwater

Number of groundwater samples collected 2

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)

NA Highest concentration of Methane (mg/l)

Surface Water

3 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?

3 background samples were included from County Road 215 area

☐ 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?

The soil excavated from the pipeline work will be sampled to determine if impacts are present. The site will be assessed via drill rig to sample subsurface soils and if water is encountered monitoring wells will be installed and sampled for table 910-1.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Caerus is still in investigation phase and is attempting to identify the extent of source material.

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.

A remedial action plan will be submitted in a supplemental Form 27 after the initial site assessment is complete.

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.

if Groundwater is encountered during soil boring activities, monitoring wells will be installed and sampled to determine if impacts are present. see attached soil boring map

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? _____

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.

The pipeline will be reclaimed after repair/replacement work is complete.

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. 10/08/2018 _____

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

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. EHS Specialist

Submit Date: 10/04/2018

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 Arauza

Date: 10/11/2018

Remediation Project Number: 11913

COA Type**Description**

	<p>Proposed Soil Sampling section indicates that: "Soil samples were collected from the excavation at the sidewalls and the bottom of the excavation below the failure point. Additionally a trench was excavated between the pond and the point of release to sample subsurface soils for potential impacts." The operator has not submitted soil sample results for the sidewalls of the flowline excavation.</p> <p>Submit a soil sample location diagram that includes the extent and depth of the excavations described in the Proposed Soil Sampling section as an attachment to a Supplemental eForm 27. The Supplemental eForm 27 shall include an analytical summary table and complete laboratory reports for all soil samples collected as a part of this investigation.</p>
	Monthly updates shall be submitted via Supplemental eForm 27s.
	<p>Submit analytical results for impacted soil stockpile at Location ID #335650 and a description of the final disposition of investigation-derived waste via Supplemental eForm 27.</p> <p>Note: Prior operator would require a Variance to Rule 907.e in order to conduct land treatment at Location ID #335650 in addition to COGCC approval of a separate eForm 27 for land treatment of impacted soil, per Rule 907.e.(2).</p>
	<p>Proximity of spill to groundwater and surface water constitute threatened impacts to Waters of the State. Operator shall continue to sample nearby monitoring wells (NPR 4MW, Solvey 1, the downgradient Caerus monitoring well referenced under Proposed Groundwater Sampling, and the proposed temporary monitoring wells) and surface water sources (irrigation pond, Middle Fork Creek, West Fork Creek) on a quarterly basis for 12 months to monitor for impacts. Notify COGCC immediately if quarterly sampling results indicate impacts to Waters of the State. Otherwise, operator shall provide quarterly data as attachments to Supplemental eForm 27s.</p> <p>Frequency of groundwater monitoring may change based on results of the subsurface investigation.</p>
	Submit eForm 19 Supplemental Report to request closure of Spill/Release ID #457694 with reference to Remediation Project Number assigned to this approved workplan.
	Operator shall delineate horizontal and vertical extent of impacts to soil, groundwater, and surface water resulting from West Fork 3-Phase Line Spill/Release ID #457694 and remediate impacts to Table 910-1 standards.

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**

401784284	FORM 27-INITIAL-SUBMITTED
401784335	SITE MAP

Total Attach: 2 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Analytical results for soil and groundwater samples were submitted via eForm 19 Supplemental (doc #401780303). Analytical results for soil samples (WF10 POR 10 and WFPL POR 8) include respective TPH concentrations of 16,590 and 42,900 mg/kg, indicating the presence of free product at depth.	10/10/2018

Total: 1 comment(s)