

State of Colorado Oil and Gas Conservation Commission

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401908998

Receive Date:

01/18/2019

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
Address: 1001 17TH STREET #1600		
City: DENVER State: CO Zip: 80202		
Contact Person: Jake Janicek	Email: jjanicek@caerusoilandgas.com	
		Phone: (970) 285-9606
		Mobile: (970) 778-2314

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12401

Initial Form 27 Document #: 401908998

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: 460722	API #: _____	County Name: GARFIELD
Facility Name: Basin Pipeline WC-4 Vault Release		Latitude: 39.403993	Longitude: -108.099484
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: SESW	Sec: 27	Twp: 7S	Range: 96W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications ML

Most Sensitive Adjacent Land Use Gravel
Pit/Riparian Area

Is domestic water well within 1/4 mile? Yes

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

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|----------------------------------------------------|------------------------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	Undetermined	Laboratory Analysis
No	SURFACE WATER	None	Laboratory 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.

On January 14th, 2019, Caerus Gas Control received a call from a Summit Midstream operator reporting a "significant amount" of water was being released from the Basin Pipeline WC-4 Vault behind the Orchard Compressor station just south of Highway 6. The Basin Pipeline was immediately isolated between valves located both up and down gradient of the vault to minimize the amount of water being released. Vacuum trucks began recovering free fluid from the vault itself as well as stormwater BMP's located south of the Orchard Compressor Station where fluid had accumulated. An earthen dam was constructed at the outlet of the furthest down gradient stormwater BMP to prevent further migration of fluids. Once the fluid level in the vault was drawn down to a level where the pipeline was visible, a section of 3/8-inch stainless tubing connecting the pipeline to a transducer was found to have failed at the point of connection. Pressure to the failed connection point was shut off at the ball valve and the stainless line was repaired. The Basin Pipeline was then pressure tested between the isolation points and returned to service.

On January 15th and 16th, 2019, a total of 26 soil samples were collected from along the spill path to determine the extent of impact. A soil sample location diagram (Figure 1) detailing the spill path has been included as an attachment. Laboratory analytical results and a summary table will be attached to a Supplemental Form 27 once results are received.

Please see operator comments for a description of additional corrective actions already taken.

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):

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):

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 26

Number of soil samples exceeding 910-1 0

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

Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 0

-- Highest concentration of SAR 0

BTEX > 910-1 No

Vertical Extent > 910-1 (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 910-1

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

7 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?

Impacts to adjacent property are suspected but not verified as of January 17th, 2019. Laboratory analytical results from the free fluid/stormwater runoff amalgamation samples collected on January 14th, 2019 indicated exceedances of COGCC Table 910-1 Concentration Levels for benzene and toluene (Table 1) but laboratory analytical results for soil samples collected from along the spill path have not been received. Once received, laboratory analytical results and a summary table will be included as attachments to a Supplemental Form 27 to confirm.

☐ 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) 0

Volume of liquid waste (barrels) 1123

☒ Is further site investigation required?

Extent of impact will continue to be delineated and an appropriate remediation strategy selected based upon laboratory analytical data.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The source of the release was removed by identifying the failed 3/8-inch stainless tubing, isolating pressure at the ball valve, and repairing the line.

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.

Following the delineation of impacts, Caerus will evaluate the collected data and select an appropriate remediation strategy.

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.

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:

Produced water/stormwater runoff was recovered and disposed of at the High Mesa Water Treatment Facility (COGCC ID 149013). Stormwater runoff continues to be pulled from stormwater BMP's and transported to High Mesa to ensure contaminants don't migrate down gradient of these control points. The volume of liquid E&P Waste listed below is as of January 16th, 2019. Additional stormwater runoff was removed from stormwater BMPs January 17th and 18th, 2019. These volumes will be detailed in the next Supplemental Form 27.

Volume of E&P Waste (solid) in cubic yards _____ 0

E&P waste (solid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: _____

Volume of E&P Waste (liquid) in barrels _____ 1123

E&P waste (liquid) description Produced Water/Stormwater runoff

COGCC Disposal Facility ID #, if applicable: _____ 149013

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.

Following remedial activities, any areas excavated will be backfilled to match preexisting grade and re-seeded if vegetation was disturbed.

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). 01/14/2019

Date of commencement of Site Investigation. 01/14/2019

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

Between January 14th and 16th, 2019, eleven water samples were collected from available water sources near the Basin Pipeline WC-4 Vault release and submitted for analysis of all COGCC Table 910-1 analytes. Four samples were collected from free fluid/stormwater runoff amalgamations along the spill path (Orchard CS Vault, Orchard Summit Flare, Orchard Pond, Orchard Terminus). Analytical results indicated benzene exceedances in all four samples and toluene exceedances in samples Orchard CS Vault, Orchard Summit Flare, and Orchard Terminus. The remaining seven water samples were collected from surface water associated with either the gravel pit (Quarry Spring, Quarry Pond, Basin Vault Pump Inlet, Basin Vault Pump Outlet) or the Colorado River (Basin Vault River Up, Basin Vault River Down, Basin Vault Una Bridge). Analytical results for surface water samples indicated no exceedances for BTEX. Laboratory analytical results, summary table (Table 1), and a sample location diagram (Figure 2) are included as attachments.

On January 18th, 2019, water samples were collected from low spots within the spill path south and down gradient of the Summit Orchard Compressor Station. Laboratory analytical results and a summary table will be attached to a Supplemental Form 27 once results are received.

Also on January 18th, 2019, two more soil samples were collected between sample points Orchard Terminus and Orchard Pond detailed on Figure 2. Laboratory analytical results and a summary table will be attached to a Supplemental Form 27 once results are received.

The Site Investigation Report tab for this Initial Form 27 indicates that 26 soil samples were collected in the "Soil Sample Summary" section. Zero's were entered for all remaining boxes within the "Soil Sample Summary" section. This is due to the fact that laboratory analytical reports from which this information will be gathered has not yet been received. Once this information is available it will be reported within a Supplemental Form 27.

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: 01/18/2019

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: Steven Arauza

Date: 01/29/2019

Remediation Project Number: 12401

COA Type**Description**

	Submit Supplemental eForm 19 to request closure of Spill/Release ID #460722. Supplemental report shall comply with COAs included in doc #401914437, indicate that work is proceeding under an approved eForm 27, and reference the Remediation Project number assigned upon approval of this report.
	Supplemental Form 19 (doc #401914437) for Spill ID #460722 indicates that "the 3/8 inch stainless tubing and transducer have been removed," Initial Form 27 (doc #401908998) indicates that "the stainless line was repaired." Please clarify.

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**

401908998	FORM 27-INITIAL-SUBMITTED
401910477	ANALYTICAL RESULTS
401910478	ANALYTICAL RESULTS
401910479	ANALYTICAL RESULTS
401910482	SOIL SAMPLE LOCATION MAP
401910483	MAP
401910723	ANALYTICAL RESULTS

Total Attach: 7 Files

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

Environmental	Operator indicates that laboratory analytical results and a summary table for soil sample data will be submitted via a Supplemental eForm 27.	01/29/2019
Environmental	Water sample collected on 1/14/2019 (Sample ID Orchard Pond) documents benzene exceedance of 144 ppb. This result indicates surface water impact.	01/29/2019

Total: 2 comment(s)