

State of Colorado
Oil and Gas Conservation Commission

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Document Number:
402985269
Receive Date:
03/22/2022
Report taken by:
Steven Arauza

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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

| | | |
|---------------------------------------|-------------------------------------|--|
| Name of Operator: CAERUS PICEANCE LLC | Operator No: 10456 | Phone Numbers Phone: (970) 778-2314 Mobile: (970) 778-2314 |
| Address: 1001 17TH STREET #1600 | | |
| City: DENVER | State: CO | Zip: 80202 |
| Contact Person: Jake Janicek | Email: jjanicek@caerusoilandgas.com | |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 21902 Initial Form 27 Document #: 402915028

PURPOSE INFORMATION

- Rule 913.c.(1): Pit or Cuttings Trench closure.
- Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- Rule 913.g: Changes of Operator.
- Rule 915.b: Request to leave elevated inorganics in situ.
- Other: Site Assessment Report - First Quarter 2022 Status Update to Remediation Number 21902

SITE INFORMATION

No Multiple Facilities

| | | | |
|---|--|------------------------|---|
| Facility Type: SPILL OR RELEASE | Facility ID: 481236 | API #: _____ | County Name: GARFIELD |
| Facility Name: SGV Federal Pipeline Release | Latitude: 39.377994 | Longitude: -108.056034 | |
| | ** correct Lat/Long if needed: Latitude: 39.377994 | Longitude: -108.056034 | |
| QtrQtr: NWSE | Sec: 1 | Twp: 8S | Range: 96W Meridian: 6 Sensitive Area? No |

SITE CONDITIONS

General soil type - USCS Classifications GM Most Sensitive Adjacent Land Use Agriculture-Rangeland
Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? No
Is groundwater less than 20 feet below ground surface? No

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 |
|-----------|----------------|------------------|----------------|
| Yes | SOILS | 134x17x10 | 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.

See Colorado Oil and Gas Conservation Commission (COGCC) Document Number 402915028 for initial actions completed.

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):

Caerus plans to conduct excavation activities via hydro-vacuum (hydro-vac) to remove the remaining hydrocarbon impacts immediately beneath the pipeline within the right-of-way (ROW). The attached report of work completed (ROWC) details the recent site investigation and details the recommended/planned source removal activities. Hydro-vac excavation activities will be directed by field personnel who will characterize the soil using visual and olfactory observations and field screen soil samples for volatile organic compounds using a photoionization detector (PID). Based on the analytical results of the recent site investigation, Caerus is requesting a subsequent reduced analyte suite of SAR, TPH, benzene, toluene, ethylbenzene, total xylenes, 1,2,4- trimethylbenzene, 1,3,5 trimethylbenzene, 1-methylnaphthalene, and 2-methylnaphthalene.

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):

Please see "Proposed Soil Sampling" section of this from for details.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 21
Number of soil samples exceeding 915-1 21
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 2278

NA / ND

-- Highest concentration of TPH (mg/kg) 51.3
-- Highest concentration of SAR 7.45
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 25

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 915-1

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

0 Number of surface water samples collected
 Number of surface water samples exceeding 915-1
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?
Defined hydrocarbon impacted material will need to be removed.

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 was a failed portion of pipe which has been replaced.

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.
Caerus plans to remove the remaining shallow impacts located immediately beneath the pipeline ROW via hydro-vac. All soil believed to be impacted will be disposed of at a licensed facility. All previously identified shallow impacts will be cleared vertically and laterally through laboratory analytical results. Please see "Proposed Soil Sampling" section of this form for details on how Caerus plans to confirm successful remediation.

Soil Remediation Summary

In Situ Ex Situ
 Bioremediation (or enhanced bioremediation) Yes Excavate and offsite disposal
 Chemical oxidation If Yes: Estimated Volume (Cubic Yards) 340

_____ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID # _____ 426582

_____ Natural Attenuation

No _____ Excavate and onsite remediation

_____ Other _____

_____ 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.

Groundwater was not encountered during assessment activities.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other

Site Investigation Report of the SGV Federal Dry Gas Release- 1Q 2022 Status Update

Request Alternative Reporting Schedule:

Semi-Annually Annually Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

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:

None

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 _____ 25

E&P waste (liquid) description impacted soil mixed with hydrovac rinsate

COGCC Disposal Facility ID #, if applicable: _____ 426582

Non-COGCC Disposal Facility: _____

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

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

If YES:

Compliant with Rule 913.h.(1).

Compliant with Rule 913.h.(2).

Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? _____

Does the previous reply indicate consideration of background concentrations? _____

Does Groundwater meet Table 915-1 standards? _____

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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.

No reclamation is currently planned.

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 provide the seed mix? _____

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. _____

Proposed date of completion of Reclamation. _____

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/18/2021

Proposed site investigation commencement. 12/14/2021

Proposed completion of site investigation. 02/28/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/18/2022

Proposed date of completion of Remediation. _____

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

In order to address a COA concerning assessing potential pathways to groundwater, a discussion of Caerus' assessment of potential pathways to groundwater is detailed below. Caerus believes that a pathway to groundwater from soil identified beneath the POR location does not exist due to the following reasons:

- 1) The vertical distance between the POR location and the anticipated static water table depth. The static water table depth is estimated to be 316 feet below release surface location based on documents associated with a domestic water well approximately 685 feet to the southwest and identified by DWR Permit #254145-.
- 2) No groundwater was or has been observed infiltrating the existing excavation or during drilling site investigation activities.
- 3) The nearest sensitive receptor (281 feet southwest) is an unnamed tributary to Spring Creek whose United States Geological Survey (USGS) map symbol detailed on the topo map provided on COGCC GISOnline indicates it is an intermittent stream. Based on local knowledge and field observations, it is anticipated that this surface water rarely receives water flow except in extreme weather events, exceptional groundwater elevation increases manifested through natural springs, and/or rain/snow melt events. There is no observable standing water within the immediate area and any resulting appreciable groundwater elevation increase would have been observed in the unnamed drainage or the excavation associated with this remediation project.

Given these observations and facts concerning groundwater in the immediate vicinity of the project site, Caerus requests that the Director make a determination to continue evaluating remediation success of this project using Residential Soil Screening Level Concentrations listed in Table 915-1.

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

Signed: Dustin Held

Title: Sr. Consultant, Geologist

Submit Date: 03/22/2022

Email: dustin.held@wsp.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: 03/29/2022

Remediation Project Number: 21902

Condition of Approval

COA Type

Description

| COA Type | Description |
|----------|--|
| 1 COA | Submit Supplemental eForm 19 to request closure of Spill/Release ID #481236. Supplemental report shall comply with outstanding COAs, indicate that work is proceeding under an approved eForm 27 and shall reference Remediation Project Number 21902. |

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

| Att Doc Num | Name |
|-------------|--------------------------------|
| 402985269 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 402988626 | SITE INVESTIGATION REPORT |

Total Attach: 2 Files

General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|--|---------------------|
| Environmental | Based on the information provided under Operator Comment, the Operator's request to proceed under the Table 915-1 Residential Soil Screening Level concentrations is approved. | 03/29/2022 |
| Environmental | Based on the information provided, the Operator's request for a reduced analyte suite of SAR, TPH, benzene, toluene, ethylbenzene, total xylenes, 1,2,4- trimethylbenzene, 1,3,5 trimethylbenzene, 1-methylnaphthalene, and 2-methylnaphthalene is approved. | 03/29/2022 |

Total: 2 comment(s)