

State of Colorado
Energy & Carbon Management Commission

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403533735
Receive Date:
09/20/2023

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.

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

OPERATOR INFORMATION

Name of Operator: <u>CAERUS PICEANCE LLC</u>	Operator No: <u>10456</u>	Phone Numbers
Address: <u>1001 17TH STREET #1600</u>		Phone: <u>(970) 902-3598</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>()</u>
Contact Person: <u>Andy Verbonitz</u>	Email: <u>averbonitz@caerusoilandgas.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 31992 Initial Form 27 Document #: 403533735

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 INFORMATION

Yes Multiple Facilities

Facility Type: <u>LOCATION</u>	Facility ID: <u>324128</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>JOY-67S93W 11NWNE</u>	Latitude: <u>39.464111</u>	Longitude: <u>-107.738535</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNE</u>	Sec: <u>11</u>	Twp: <u>7S</u>	Range: <u>93W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>484716</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>B11W Dumpline</u>	Latitude: <u>39.464417</u>	Longitude: <u>-107.738130</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNE</u>	Sec: <u>11</u>	Twp: <u>7S</u>	Range: <u>93W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use non-cropland,
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

Other Potential Receptors within 1/4 mile

Residence 900' WNW, elk severe winter range high priority habitat (HPH), elk winter concentration area HPH, mule deer winter concentration area HPH, aquatic sportfish management waters HPH, dry ephemeral creek 220' east.

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	undetermined	sampling and 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.

Please refer to document numbers 403454618 and 403462112 for initial actions taken in support of this project. As described in the attached Site Investigation Report, 2 soil samples were collected for full ECMC Table 915-1 laboratory analysis from 2' bgs and 12' bgs, under the point of release at ground surface, as part of the initial investigation. Additionally, 3 background soil samples were collected for ECMC Table 915-1 Soil Suitability for Reclamation and Metals laboratory analysis from native areas around the site.

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):

Following horizontal delineation and impacted soil removal, confirmation soil samples will be collected around the sidewalls. An appropriate number of excavation sidewall samples will be collected, and additional floor samples if needed. Future confirmation soil samples will be analyzed for the approved suite of analytes set forth by applicable COAs.

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	NA / ND
Number of soil samples collected <u>5</u>	-- Highest concentration of TPH (mg/kg) <u>5456</u>
Number of soil samples exceeding 915-1 <u>1</u>	-- Highest concentration of SAR <u>0.479</u>
Was the areal and vertical extent of soil contamination delineated? <u>No</u>	BTEX > 915-1 <u>Yes</u>

Approximate areal extent (square feet) 2

Vertical Extent > 915-1 (in feet) 2

Groundwater

Number of groundwater samples collected 0

Highest concentration of Benzene (µg/l) _____

Was extent of groundwater contaminated delineated? No

Highest concentration of Toluene (µg/l) _____

Depth to groundwater (below ground surface, in feet) _____

Highest concentration of Ethylbenzene (µg/l) _____

Number of groundwater monitoring wells installed _____

Highest concentration of Xylene (µg/l) _____

Number of groundwater samples exceeding 915-1 _____

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?

3 background soil samples were collected for ECMC Table 915-1 Soil Suitability for Reclamation and Metals laboratory analysis from native areas around the site for comparison.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 1

Volume of liquid waste (barrels) 0

Is further site investigation required?

Following horizontal delineation and impacted soil removal, confirmation soil samples will be collected around the sidewalls. An appropriate number of excavation sidewall samples will be collected, and additional floor samples if needed. Future confirmation soil samples will be analyzed for the approved suite of analytes set forth by applicable COAs.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

The failed dumpline riser connection was replaced.

REMEDATION 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.

Impacted soils will be removed via hydrovac truck and/or heavy equipment and disposed of at a certified landfill or approved Caerus facility. Field screening via PID and an appropriate number of confirmation soil samples will be collected. Laboratory analysis will be completed to confirm successful removal of impacted soils.

Soil Remediation Summary

In Situ

Ex Situ

 Bioremediation (or enhanced bioremediation)

 Yes Excavate and offsite disposal

 Chemical oxidation

 If Yes: Estimated Volume (Cubic Yards) 1

 Air sparge / Soil vapor extraction

 Name of Licensed Disposal Facility or COGCC Facility ID # _____

 Natural Attenuation

 Excavate and onsite remediation

 Other _____

 Land Treatment

 Bioremediation (or enhanced bioremediation)

 Chemical oxidation

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

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other

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 _____

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Per Rule 705.b, and in line with guidance laid out in the SBAP, Caerus has general liability insurance in the amount of \$1M, and Caerus has umbrella insurance, which sits over the general liability insurance in the amount of \$75M. The umbrella and general liability insurance covers property damage, bodily injury to third parties, and sudden or accidental pollution under a combined \$76M.

Operator anticipates the remaining cost for this project to be: \$ 5000 _____

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:

Volume of E&P Waste (solid) in cubic yards _____ 1

E&P waste (solid) description hydrocarbon impacted soil

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Green Leaf Environmental

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

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.

Once remediation is complete, Caerus proposes to return the excavation to the active working surface grade for continued operation.

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 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. 11/30/2023

Proposed date of completion of Reclamation. 11/30/2023

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). 07/04/2023

Proposed site investigation commencement. 08/28/2023

Proposed completion of site investigation. 11/30/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/28/2023

Proposed date of completion of Remediation. 11/30/2023

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

Caerus believes a pathway to groundwater does not exist based on the following reasons and requests use of Table 915-1 Residential Soil Screening Level cleanup concentrations for future soil sample comparison:

- 1) Soil sample 20230828-B11W-(POR)@12 collected from 12' below the point of release is within all Table 915-1 Protection of Groundwater Soil Screening Level cleanup concentrations.
- 2) Based on DWR data, groundwater was encountered in the three (3) closest residential water wells within 0.5 miles of the Site at 47' bgs in water well receipt number 0469309D, 60' bgs in water well receipt number 10021188, and 92' bgs in water well receipt number 0469309E
- 3) Source identified at ground surface and repaired

Based on lab results from the initial investigation, and in consideration of the request to utilize Table 915-1 Residential Soil Screening Level standards, Caerus requests a reduced soil sample analysis suite for the project to include Xylenes, TPH C6-C36, 1,2,4 Trimethylbenzene, 1,3,5 Trimethylbenzene, and Naphthalene only.

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

Signed: David Castro

Title: Senior Project Scientist

Submit Date: 09/20/2023

Email: dcastro@eagle-enviro.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: 10/10/2023

Remediation Project Number: 31992

COA Type

Description

	Operator shall collect soil samples from areas most likely to be impacted and shall collect an appropriate number of representative soil samples to delineate the horizontal and vertical extents of contamination, per Rule 915.e.(2).B.
	Per Rule 913.b.(2), the Operator will conduct sampling and analysis of soil, and groundwater--if encountered, to determine the horizontal and vertical extent of any contamination in excess of the cleanup concentrations in Table 915-1 for soil and groundwater. The Operator shall analyze samples for the approved analyte suite and shall compare analytical results for site investigation samples to the Table 915-1 Residential Soil Screening Level Concentrations.
	Submit Supplemental eForm 19 to request closure of Spill/Release ID #484716. Supplemental report shall comply with outstanding COAs, indicate that work is proceeding under an approved eForm 27 and shall reference the Remediation Project number assigned upon approval of this report.

3 COAs

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
403533735	INVESTIGATION/REMEDATION WORKPLAN (INITIAL)
403535815	SITE INVESTIGATION REPORT
403555139	FORM 27-INITIAL-SUBMITTED

Total Attach: 3 Files

General Comments

User Group	Comment	Comment Date
Environmental	Based on the information provided for site investigation soil samples (doc #403535815), the Operator's request for a reduced analyte suite of TPH (GRO, DRO, ORO), xylenes, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and naphthalene only is conditionally approved.	10/10/2023

Environmental	Based on the information provided under Operator Comment, the Operator's request to utilize the Table 915-1 Residential Soil Screening Level concentrations is conditionally approved.	10/10/2023
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Total: 2 comment(s)