

State of Colorado
Oil and Gas Conservation Commission

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403112417
Receive Date:
08/08/2022

Report taken by:
John Heil

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 25302 Initial Form 27 Document #: 403112417

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: 2Q Status to Administrative Closure of Historic Production Pit (Facility ID: 104876).

SITE INFORMATION

Yes Multiple Facilities

Facility Type: PIT	Facility ID: 104876	API #:	County Name: RIO BLANCO
Facility Name: SAGEBRUSH HILLS 4504	Latitude: 39.896750	Longitude: -108.530633	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NENW	Sec: 8	Twp: 2S	Range: 99W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 314907	API #:	County Name: RIO BLANCO
Facility Name: SAGEBRUSH HILLS II UNIT A-62S99W 8NENW	Latitude: 39.896740	Longitude: -108.530613	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NENW	Sec: 8	Twp: 2S	Range: 99W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SW _____

Most Sensitive Adjacent Land Use Rangeland-BLM

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	TBD	Site Investigation/Laboratory Analytical

INITIAL ACTION SUMMARY

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

Three potholes were advanced within the previously abandoned (not administratively closed) historic production pit footprint. One pothole was advanced at each end of the pit and one in the center of the historic production pit footprint. Two soil samples were collected from each pothole immediately above and below the pit liner. Soil samples were screened using a photoionization detector (PID) at 2-foot intervals as each pothole was advanced to terminus. See the attached report of work completed (ROWC) for the additional details regarding the investigative sampling within the historic pit footprint.

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):

Laboratory analytical from the initial investigative sampling completed on 6/24/2022, indicates subsequent investigation will be necessary to define observed impacts. A minimum of five soil borings will be advanced; one located immediately adjacent to the previous pothole location (PH02) within the historic pit footprint and one in each cardinal direction from PH02. If vertical and/or lateral impacts are observed beyond the three advanced surrounding the historic pit footprint, subsequent soil borings will be advanced in each cardinal direction until impacts are defined. These soil borings will be advanced five feet past field observed hydrocarbon impacts.

Caerus request the COGGC Director to sample under a reduced analytical suite for all future samples to include arsenic, boron, chromium (VI), TPH, EC, SAR, and pH. These were the only analytes that soil samples collected on 6/24/2022 exhibited exceedances for.

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):

Additional soil borings will be advanced outside of the original pad disturbance to use as background soil sampling sites for comparison to SAR, EC, pH, and arsenic.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 10

-- Highest concentration of TPH (mg/kg) 1899

Number of soil samples exceeding 915-1 10

-- Highest concentration of SAR 49.1

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

BTEX > 915-1 Yes

Approximate areal extent (square feet) 85068

Vertical Extent > 915-1 (in feet) 7

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?

Four site-specific background soil samples were collected from locations on undisturbed land to establish site-specific background data per COGCC Rule 915.e.(2).D.

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?

Please refer to the "Proposed Soil Sampling" section for additional investigative actions.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Once the impacts are fully delineated a plan to remove the source will be addressed.

REMEDICATION 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 remediation plan will be submitted once all historic pit impacts are delineated.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____

_____ 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

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 is not anticipated, if encountered, representative grab samples will be collected and analyzed under COGCC Table 915-1 for water.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other

2Q Status to Administrative Closure of Historic Production Pit (Facility ID: 104876).

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.

Until Caerus submits a Financial Assurance Plan required by Rule 702, due September 15, 2022, the bond covering the remediation of this well/location will be covered under 20130021.

Operator anticipates the remaining cost for this project to be: \$ 50000

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 _____ 10

E&P waste (liquid) description hydro-vac rinsate mixed with impacted soils

COGCC Disposal Facility ID #, if applicable: _____ 426582

Non-COGCC Disposal Facility: Greenleaf Environmental Services

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.

All disturbances within the interim reclaim will be reclaimed to match existing grade. When the site is decommissioned at a later date, it will be reclaimed in accordance with 1000 Series regulation.

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. 06/24/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/24/2022

Proposed site investigation commencement. 08/10/2022

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 06/24/2022

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

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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: Dustin Held

Title: Sr. Consultant, Geologist

Submit Date: 08/08/2022

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: John Heil

Date: 10/06/2022

Remediation Project Number: 25302

COA Type**Description**

	<p>COGCC denies Caerus's request for the reduced analytical suite for all future samples to only include arsenic, boron, chromium (VI), TPH, EC, SAR, and pH.</p> <p>Operator shall thoroughly delineate the vertical and horizontal impacts using the Full Table 915-1 list of contaminants of concerns before a reduced analyte suite is approved.</p>
	<p>Attached Doc #403129517 states "During advancement of pothole location PH03 (western), pit liner was encountered at approximately 3.5 feet bgs and sandstone bedrock at 5 feet bgs." See Photo #6 in Attached Doc #403129517 under the ENCLOSURE A – SOIL SCREENING PHOTOLOG for photos of the pit liner.</p> <p>Operator shall comply with Rule 911.c.(3).A and remove and dispose of synthetic liners pursuant to all state and federal requirements for Solid Waste Disposal.</p>
	<p>Operator shall comply with Rule 911.b and report on a Form 19 Spill/Release Report all spills or release discovered during closure operations pursuant to Rule 912.</p>
	<p>Operator is not in compliance with Rule 911.a.(1) as they did not obtain the directors approval prior to this site investigation.</p> <p>Operator shall comply with Rule 911.a.(1) and obtain the Director's approval of the Form 27 prior to conducting any investigation or closure operations.</p>
4 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**

403112417	FORM 27-INITIAL-SUBMITTED
403129517	SITE INVESTIGATION REPORT

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)