

State of Colorado Oil and Gas Conservation Commission

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Report taken by:

Kari Brown

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: CRESTONE PEAK RESOURCES OPERATING LLC	Operator No: 10633	Phone Numbers Phone: (303) 774-4017 Mobile: (720) 925-1820
Address: 1801 CALIFORNIA STREET #2500		
City: DENVER	State: CO Zip: 80202	
Contact Person: Schuyler Hamilton	Email: shamilton@civiresources.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 20312 Initial Form 27 Document #: 402825488

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: WELL	Facility ID: _____	API #: 123-11087	County Name: WELD
Facility Name: OSTER 1	Latitude: 40.279088	Longitude: -104.661474	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____			
QtrQtr: SESE	Sec: 28	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes
Facility Type: LOCATION	Facility ID: 319336	API #: _____	County Name: WELD
Facility Name: OSTER-64N65W 28SESE	Latitude: 40.279016	Longitude: -104.661437	
** correct Lat/Long if needed: Latitude: _____ Longitude: _____			
QtrQtr: SESE	Sec: 28	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? No

Facility Type: OFF-LOCATION FLOWLINE	Facility ID: 473071	API #:	County Name: WELD
Facility Name: Wellhead Line 28SESE	Latitude: 40.279364	Longitude: -104.661535	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SESE	Sec: 28	Twp: 4N	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Cropland

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

Occupied structures.

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 checked="" type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input checked="" 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
No	GROUNDWATER	No impacts	Laboratory analysis
Yes	SOILS	Pending Final Results	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.

This form has been prepared to support removal of the production equipment associated with this location. In accordance with COGCC Rule 911 and Rule 915, initial representative soil samples will be collected beneath the following equipment, if present onsite: wellheads, separators, above ground surface tanks, and produced water vessels. Initial laboratory soil analysis will include only BTEX, 1,2,4 and 1,3,5 Trimethylbenzene, naphthalene, TPH, pH, EC, SAR and boron. Other equipment such as the ECDs, meter sheds, or other qualifying equipment will be field screened, and a lab analysis submitted if impacts are identified. Groundwater, if present, will also be collected and analyzed. Identified impacts will be reported as required for each discovery, and a Form 19 will be submitted, and remedial investigation will be conducted with excavation equipment.

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):

In accordance with COGCC Rule 911 and Rule 915 soil samples will be collected during closure of each qualifying equipment type and/or field screened as described in the Initial Action Summary. Initial laboratory analysis will include only BTEX, 1,2,4 and 1,3,5 Trimethylbenzene, naphthalene, TPH, pH, EC, SAR and boron. If impacts are confirmed, the full Table 915-1 list of analysis will be tested for and additional excavation effort may be conducted to delineate horizontal and vertical extents. Overburden stockpiles, if present, will be sampled prior to use as backfill with a frequency of 1 composite sample per 500 cubic yards of material and submitted for analysis of VOCs.

Proposed Groundwater Sampling

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

If groundwater is encountered during excavation activities, one sample will be collected for BTEX, naphthalene, 1,2,3 and 1,3,5, trimethylbenzene analysis. If impacts are confirmed, additional groundwater samples may be collected and analyzed for the full Table 915-1 groundwater constituents.

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 58

Number of soil samples exceeding 915-1 25

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

Approximate areal extent (square feet) 12500

-- Highest concentration of TPH (mg/kg) 5180

-- Highest concentration of SAR 14.1

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 13

Groundwater

Number of groundwater samples collected 1

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet) 15

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

-- Highest concentration of Benzene (µg/l) 1.3

-- Highest concentration of Toluene (µg/l) 1.67

ND Highest concentration of Ethylbenzene (µg/l)

-- Highest concentration of Xylene (µg/l) 7.3

NA 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?

Two background samples were collected from shallow areas within native soils undisturbed by oil and gas activities. Background samples were analyzed for soil suitability and 915-1 Metals and results were averaged to generate baseline levels for native soil conditions. These results show that native soil conditions vary across the site. Additional background samples may be collected to further characterize background conditions at the location.

☐ 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?

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.

Once a release was discovered during the closure of the on-location flowlines, additional excavations were conducted, and impacted soil was removed and transported to a disposal facility. Final volumes will be reported on a subsequent Form 27 Supplemental when finalized. Transport and disposal records will be kept on file under usual and customary practice and are available upon request.

REMEDIAL 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.

In accordance with COGCC Rule 911 and Rule 915, representative surface soil samples were collected beneath the separators, above-ground storage tanks (AST), and excavation samples were collected from the wellhead and partially-buried produced water vessel (PWV). Other equipment such as the meter shed and flowlines were field screened using a photoionization detector (PID). Once soil impacts were discovered during wellhead and flowline investigation additional excavations were conducted and impacted soil was removed and disposed. Soil samples were collected and analyzed for Table 915-1 constituents to characterize the final extents of excavation. Analytical results and Remediation Report from excavation activities will be provided on a subsequent Form 27 Supplemental. Groundwater was not encountered during excavation, but due to its proximity to the base of excavation, a pothole was excavated into groundwater in order to collect groundwater sample GW01. Laboratory results from groundwater sampling indicated Table 915-1 constituents were within allowable limits. After a consultation with the Environmental Protection Specialist on April 1, 2022, it was determined that monitoring well installation should be pursued in order to evaluate the site specific groundwater conditions.

Soil Remediation Summary

☐ In Situ

☐ Ex Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

_____ 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.

Crestone Peak Resources (CPR) proposes to install 4 temporary monitoring wells in order to evaluate the site specific groundwater conditions. Monitoring wells are scheduled for installation on April 12, 2022 to avoid conflicts with agricultural land use and mitigate the potential for further crop planting delays. Target depths for the 4 wells will be approximately 22 feet bgs; however, depths will be determined based on field observations. At each monitoring well location, the soil will be logged and field-screened using a PID, and at least one grab soil sample will be collected from each boring and submitted for BTEX, TPH-GRO, and TPH-DRO analysis. Sample intervals in the boring will be determined based on the highest PID reading from each boring and/or from the interval immediately above the groundwater saturated zone. Collected groundwater samples will be submitted for laboratory analysis of Table 915-1 constituents.

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

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:

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.

Reclamation activities will be completed in accordance with 1000 Series Rules, in collaboration with the landowner, and reported in a Form 4 (Sundry Notice) with proper documentation to demonstrate compliance with requirements for final reclamation. After all road base or other material is removed for reclamation, Operator may submit samples for laboratory analysis for soil suitability in compliance with 915.b if impacts from inorganic constituents are indicated.

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. 09/20/2021

Actual Spill or Release date, or date of discovery. 12/28/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 09/27/2021

Proposed site investigation commencement. 10/11/2021

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/11/2021

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

This interim Form 27 Supplemental is being provided to the COGCC in order to provide an update on the remedial progress at this Site. After a consultation with the Environmental Protection Specialist on April 1, 2022, it was determined that monitoring well installation should be pursued in order to evaluate the site specific groundwater conditions. Monitoring wells are scheduled for installation on April 12, 2022 to avoid conflicts with agricultural land use and mitigate the potential for further crop planting delays. Once final laboratory reports for soil clearance samples are available, an additional Form 27 Supplemental will be provided

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

Signed: Maggie Graham

Title: Senior Project Manager

Submit Date: 04/08/2022

Email: Maggie.Graham@apexcos.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: Kari Brown

Date: 05/03/2022

Remediation Project Number: 20312

Condition of Approval**COA Type****Description**

0 COA

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**

403009319	FORM 27-SUPPLEMENTAL-SUBMITTED
403009503	SITE MAP

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)