

State of Colorado  
Energy & Carbon Management Commission

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Receive Date:

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Report taken by:

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 ECMC 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
Address: 555 17TH STREET SUITE 3700		Phone: (720) 3846452
City: DENVER State: CO Zip: 80202		Mobile: ( )
Contact Person: Costin McQueen	Email: cmcqueen@civiresources.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34460 Initial Form 27 Document #: 403713487

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: Equipment Removal

SITE INFORMATION

Yes Multiple Facilities

Facility Type: LOCATION Facility ID: 467266 API #: County Name: ARAPAHOE

Facility Name: State Bierstadt 4-65 35-34 2AH Latitude: 39.661529 Longitude: -104.624449

\*\* correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SENE Sec: 35 Twp: 4S Range: 65W Meridian: 6 Sensitive Area? No

Facility Type: SPILL OR RELEASE Facility ID: 486994 API #: County Name: ARAPAHOE

Facility Name: State Bierstadt 4-65 35-34 2AH Latitude: 39.662625 Longitude: -104.624355

\*\* correct Lat/Long if needed: Latitude: Longitude:

QtrQtr: SENE Sec: 35 Twp: 4S Range: 65W Meridian: 6 Sensitive Area? Yes

## **SITE CONDITIONS**

General soil type - USCS Classifications OL

Most Sensitive Adjacent Land Use Rangeland

Is domestic water well within 1/4 mile? No

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? No

### **Other Potential Receptors within 1/4 mile**

A Seasonal Ditch is 295-ft to the E.

No water wells within 1/4 of a mile.

Groundwater less than 20 ft is not expected at the disturbance location.

This location is within a HPH Pronghorn Winter Concentration Area. Per NTO from Jan. 4, 2023 titled CPW CONSULTATION PROCESS FOR OPERATIONS IN WILDLIFE HABITATS AT EXISTING OIL AND GAS LOCATIONS, CPW consultation not required.

# 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
Yes	SOILS	65' x 12' x 4' bgs	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.

A site investigation was conducted pursuant to COGCC rule 911 at the State Bierstadt 4-65 35-34 2AH (467266) oil and gas location pertaining to the removal of (4) Separators, (2) 500-bbl Water Tanks, (4) 500-bbl Oil Tanks, (1) LACT, (1) Instrument Air Skid, (2) Combustors, (1) Bulk Separator, (1) Sales Gas Meter Bldg., (1) Sales Gas Scrubber. All other wells and equipment will remain active. See site map exhibit for details.

## 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 ):

Grab confirmation soil samples will be collected from beneath the above ground oil tanks, water tanks, separators, LACT, and Sales Gas Scrubber. Soil samples will be analyzed by a certified laboratory for TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons), organic compounds in soil per COGCC Table 915-1, and EC, SAR, pH, metals, and boron. All samples collected will be analyzed by a certified laboratory using approved COGCC laboratory analysis methods.

### Proposed Groundwater Sampling

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

If groundwater is encountered during the site investigation a grab groundwater sample will be collected and analyzed for all organic and inorganic compounds per ECMC Table 915-1.

### 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 ):

Visual inspection of the location will occur during removal activities. Field personnel will field screen all disturbed areas using visual and olfactory senses to determine if laboratory confirmation sampling is required. A photolog will be submitted on the Subsequent Form 27.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil	NA / ND
Number of soil samples collected <u>21</u>	-- Highest concentration of TPH (mg/kg) <u>32200</u>
Number of soil samples exceeding 915-1 <u>19</u>	-- Highest concentration of SAR <u>38.4</u>

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

BTEX > 915-1 Yes

Approximate areal extent (square feet) 0

Vertical Extent > 915-1 (in feet) 5

**Groundwater**

Number of groundwater samples collected 0

-- Highest concentration of Benzene (µg/l) 0.016

Was extent of groundwater contaminated delineated? No

-- Highest concentration of Toluene (µg/l) 0.054

Depth to groundwater (below ground surface, in feet) \_\_\_\_\_

ND Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_

Number of groundwater monitoring wells installed \_\_\_\_\_

-- Highest concentration of Xylene (µg/l) 0.106

Number of groundwater samples exceeding 915-1 \_\_\_\_\_

NA Highest concentration of Methane (mg/l) \_\_\_\_\_

**Surface Water**

0 Number of surface water samples collected

0 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?

Empty text box for impacts to adjacent property or offsite impacts.

Were background samples collected as part of this site investigation?

5 background soil samples were collected and submitted for Table 915 metals, EC, SAR, Boron, and pH. Additional background samples will be collected on pad and submitted for Table 915 metals, EC, SAR, Boron, and pH.

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?

Empty text box for 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.

The LACT, above ground water and oil tanks were within lined containment. The integrity of the liner was confirmed to be in good condition, therefore, soil samples were not collected. Grab confirmation soil samples were collected beneath the removed separators and Sales Gas Scrubber and submitted in compliance with ECMC Table 915-1. Analytical results indicated a historical release had occurred beneath the separators, which was reported via Form 19 (Doc #403823639; Spill ID: 486994). Source removal occurred and approximately 60 cubic yards of soil was removed and hauled for disposal. Confirmation soil samples were collected and submitted for full Table 915 analysis. Analytical results indicate elevated levels of Arsenic, Barium, Selenium, Chromium (IV), SAR, and pH. TPH (C6-C36) and Organics were all ND or in compliance with ECMC Table 915-1. Additional source removal will occur and confirmation soil samples will be collected and submitted for Arsenic, Barium, Selenium, Chromium (IV), Boron, EC, SAR, and pH. Due to majority of impacts being limited to the pad surface material and the only remaining impacts being Arsenic, Barium, Selenium, Chromium (IV), pH, EC, Boron, and SAR, Crestone proposes collecting on-pad background samples for comparison to confirmation soil samples. Additionally, multiple water wells within a 1 mile radius had reported water levels greater than 100' bgs. The closest water well (CO DWR Permit #178111) had a reported static water level of 245' bgs. Crestone proposes the use of RSSL concentrations to show compliance with ECMC Table 915-1.

**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.

Once source removal is completed, the estimated timeframe to achieve NFA status will be December 31, 2024.

**Soil Remediation Summary**

In Situ

Ex Situ

\_\_\_\_ Bioremediation ( or enhanced bioremediation )

\_\_\_\_ Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 60  
Name of Licensed Disposal Facility or ECMC 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

### 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.

The General Liability coverage within the Civitas Resources insurance program includes coverage for bodily injury, property damage, and pollution clean-up costs arising from qualifying pollution events of a sudden and accidental nature subject to a \$1,000,000 per occurrence limit and \$2,000,000 aggregate limit. The Civitas Resources insurance program includes Excess Liability coverage of \$110,000,000 per occurrence and in the aggregate which sits over the sudden and accidental pollution within the General Liability coverage. It is the opinion of Civitas Resources that this total tower of limit is adequate to address the costs of remediation associated with any qualifying pollution event.

Operator anticipates the remaining cost for this project to be: \$ 20000 \_\_\_\_\_

## 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:

No beneficial use

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 60

E&P waste (solid) description    E&P waste derived from oil and gas activities \_\_\_\_\_

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: Front Range Landfill

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

E&P waste (liquid) description \_\_\_\_\_

ECMC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-ECMC Disposal Facility: \_\_\_\_\_

## REMEDATION COMPLETION REPORT

### REMEDATION 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 ECMC 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 will be in accordance with COGCC 1000 Series Rules.

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. \_\_\_\_\_

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. 02/02/2024

Actual Spill or Release date, or date of discovery. 06/12/2024

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/13/2024

Proposed site investigation commencement. 04/16/2024

Proposed completion of site investigation. 06/30/2024

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/01/2024

Proposed date of completion of Remediation. 12/31/2024

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**

Due to majority of impacts being limited to the pad surface material and the only remaining impacts being Arsenic, Barium, Selenium, Chromium (IV), pH, EC, Boron, and SAR, Crestone proposes collecting on-pad background samples for comparison to confirmation soil samples. Additionally, multiple water wells within a 1 mile radius had reported water levels greater than 100' bgs. The closest water well (CO DWR Permit #178111) had a reported static water level of 245' bgs. Crestone proposes the use of RSSL concentrations to show compliance with ECMC Table 915-1.

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

Signed: Costin McQueen

Title: Senior Env Specialist

Submit Date: \_\_\_\_\_

Email: cmcqueen@civiresources.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: \_\_\_\_\_

Date: \_\_\_\_\_

Remediation Project Number: 34460

**COA Type****Description**

COA Type	Description
0 COA	

**ATTACHMENT 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**

403840169	SOIL SAMPLE LOCATION MAP
403840170	ANALYTICAL RESULTS
403840172	ANALYTICAL RESULTS
403840178	PHOTO DOCUMENTATION

Total Attach: 4 Files

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

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)