

State of Colorado
Energy & Carbon Management Commission

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Document Number:

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Receive Date:

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 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 |
| Address: 555 17TH STREET SUITE 3700 | | Phone: (303) 2947864 |
| City: DENVER | State: CO | Zip: 80202 |
| Contact Person: Jacob Evans | Email: jevans@civiresources.com | Mobile: (303) 8293811 |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 25332 Initial Form 27 Document #: 403088945

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: PIT | Facility ID: 103309 | API #: _____ | County Name: WELD |
| Facility Name: MILLER 14-17 | Latitude: 40.133080 | Longitude: -104.921035 | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: SWSW | Sec: 17 | Twp: 2N | Range: 67W |
| Meridian: 6 | Sensitive Area? Yes | | |

| | | | |
|--|---------------------|------------------------|-------------------|
| Facility Type: PIT | Facility ID: 103315 | API #: _____ | County Name: WELD |
| Facility Name: MILLER 4-17J | Latitude: 40.133170 | Longitude: -104.921157 | |
| ** correct Lat/Long if needed: Latitude: _____ | | Longitude: _____ | |
| QtrQtr: SWSW | Sec: 17 | Twp: 2N | Range: 67W |
| Meridian: 6 | Sensitive Area? No | | |

| | | | |
|--|---------------------|------------------------|--|
| Facility Type: SPILL OR RELEASE | Facility ID: 483523 | API #: | County Name: WELD |
| Facility Name: Historic Miller 4-17J | Latitude: 40.133170 | Longitude: -104.921157 | |
| ** correct Lat/Long if needed: Latitude: | | Longitude: | |
| QtrQtr: SWSW | Sec: 17 | Twp: 2N | Range: 67W Meridian: 6 Sensitive Area? Yes |

| | | | |
|--|---------------------|------------------------|--|
| Facility Type: SPILL OR RELEASE | Facility ID: 484023 | API #: | County Name: WELD |
| Facility Name: Miller 14-17 Pit | Latitude: 40.133080 | Longitude: -104.921035 | |
| ** correct Lat/Long if needed: Latitude: | | Longitude: | |
| QtrQtr: SWSW | Sec: 17 | Twp: 2N | Range: 67W Meridian: 6 Sensitive Area? Yes |

SITE CONDITIONS

| | | | |
|--|-----|-----------------------------------|-------------|
| General soil type - USCS Classifications | SP | Most Sensitive Adjacent Land Use | Residential |
| 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

None

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 | 60' X 60' X 24' 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 will be conducted pursuant to COGCC rule 911 at the MILLER 4-17 J pit. The pit was historically back-filled. Soil samples will be taken and analyzed per Table 915-1 to ensure that this pit does not require any remediation prior to final reclamation on this location.

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):

During assessment of the Miller 14-17J pit, one grab soil sample was collected at the highest PID field screening location in the soil bore and analyzed by a certified laboratory for TPH C6-36, organics, pH, EC, and SAR. Additionally during site assessment activities twenty (20) grab soil samples were collected for analysis of Table 915-1 metals, organics, TPH C6-36, pH, EC, SAR, and boron. During assessment of the Miller 14-17 pit one grab soil sample was collected for laboratory analysis of Table 915-1 organics, TPH C6-36, SAR, EC, and pH. These two pit locations will be combined into one remediation due to close proximity.

Proposed Groundwater Sampling

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

If groundwater is encountered the soil borings will be converted to a monitoring well. A groundwater sample will be collected for analysis by a certified laboratory for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and TDS, sulfates, and chlorides.

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

Number of soil samples collected 41

Number of soil samples exceeding 915-1 21

NA / ND

-- Highest concentration of TPH (mg/kg) 3630

-- Highest concentration of SAR 28.6

Was the areal and vertical extent of soil contamination delineated? Yes

BTEX > 915-1 Yes

Approximate areal extent (square feet) 225

Vertical Extent > 915-1 (in feet) 24

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?

Twenty background samples were collected for analysis of Table 915-1 metals, SAR, EC, pH, and boron.

☐ 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.

Source removal has been paused to evaluate existing data and resample locations with arsenic exceedances. Soil confirmation samples were collected for analysis of Table 915-1 metals, TPH C6-36, organics, EC, SAR, pH, and boron.

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.

Source removal has been completed. Background samples were collected off the excavation in native soils. Background samples below 20' were unable to be collected due to refusal during the site assessment. A statistical analysis was performed by Quandary Consultants to determine the statistical variability of SAR, Arsenic, and pH. The statistical analysis confirmed that confirmation soil samples within the excavation to a total depth of 20' below ground surface (bgs), had concentrations of SAR, Arsenic, and pH that are not statistically similar to background concentrations. The sidewalls and floor of the excavation will be resampled for arsenic only to determine laboratory variability.

A consolidated layer of shale stone was observed at the base of the excavation from 20-24' bgs and no groundwater was observed during excavation activities. Due to the consolidated layer of shale and no groundwater observed at the base of the excavation, a determination that no pathway to groundwater exists and Table 915-1 residential soil screening levels are proposed. The estimated timeframe to achieve a no further action is August 30, 2024.

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

Bioremediation (or enhanced bioremediation)

Yes Excavate and offsite disposal

Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) 4000

_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

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.

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 Excavation Report/Statistical Analysis

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: \$ 100000

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 4000

E&P waste (solid) description E&P solid waste derived from excavation activities

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Front Range Landfill

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

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? No

Does the previous reply indicate consideration of background concentrations? _____

Does Groundwater meet Table 915-1 standards? Yes _____

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.

If disturbance occurs reclamation will be in accordance with ECMC 1000 series rules. All SAR and pH concentrations above ECMC standards will be removed from the root zone. If residual impacts are left in situ a detailed reclamation plan may be submitted.

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. 10/27/2022

Actual Spill or Release date, or date of discovery. 03/14/2023

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/05/2022

Proposed site investigation commencement. 03/14/2023

Proposed completion of site investigation. 04/30/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 07/10/2023

Proposed date of completion of Remediation. 08/30/2024

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:

Additional evaluation of data.

OPERATOR COMMENT

| |
|--|
| |
|--|

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

Signed: Jacob Evans

Title: Environmental Advisor

Submit Date:

Email: jevans@civiresources.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:

Date:

Remediation Project Number: 25332

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**

| | |
|-----------|-----------------------------|
| 403652214 | REMEDIATION PROGRESS REPORT |
|-----------|-----------------------------|

Total Attach: 1 Files

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

| | | |
|--|--|---------------------|
| | | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)