FORM 27 Rev 4/21

State of Colorado
Oil and Gas Conservation Commission

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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 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.
Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATON

Name of Operator: CRESTONE PEAK RESOURCES OPERATING LLC Operator No: 10633

Address: 1801 CALIFORNIA STREET #2500

City: DENVER State: CO Zip: 80202

Contact Person: David Tewkesbury

Phone Numbers

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PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12501 Initial Form 27 Document #: 401933790

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.
- [X] 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.
- [X] 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

No Multiple Facilities

Facility Type: LOCATION Facility ID: 434314 API #: County Name: WELD

Facility Name: Grant Hurt 14H-G268 Latitude: 40.139280 Longitude: -104.966590

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

QtrQtr: SWNE Sec: 14 Twp: 2N Range: 68W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

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

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? Yes

Other Potential Receptors within 1/4 mile

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- [X] **E&P Waste**
  - [ ] Produced Water
  - [ ] Oil
  - [X] Condensate
  - [ ] Drilling Fluids
  - [ ] Drill Cuttings
- [ ] **Other E&P Waste**
  - [ ] Workover Fluids
  - [ ] Tank Bottoms
  - [ ] Pigging Waste
  - [ ] Rig Wash
  - [ ] Spent Filters
  - [ ] Pit Bottoms
  - [ ] Other (as described by EPA) _____
- [ ] **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	TMW-4, TMW-5, and TMW-7	Laboratory analysis
Yes	SOILS	See previous documentation	Visual and soil borings

INITIAL ACTION SUMMARY

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

In March 2018, a hammer union was found leaking on a produced oil line. This leak resulted in a release of 75 barrels of condensate onto the pad surface. A hydrovac was immediately used to remove all visual soil contamination. On March 30, 2018, two 10-foot long, 4-inch diameter horizontal screens were installed into the excavated area which measured approximately 15 feet by 10 feet. The horizontal screens were covered with pea gravel and approximately 2,000 pounds of granular carbon. The excavated area was then backfilled.
On January 2, 2019, five soil borings were advanced. Soil samples were collected and submitted for analysis of TPH and BTEX. All soil samples were within allowable limits under Table 910-1 standards. Four temporary monitoring wells were also installed. A water sample was retrieved from each well and analyzed for BTEX. Groundwater analytical data was within allowable limits under Table 910-1 for all samples.
From June 17, 2020 to December 16, 2020 eight groundwater monitoring wells were installed. Soil from each boring was field-screened using a photoionization detector (PID). Soil samples with the highest PID reading and soil samples from the vertical extent of each boring were collected and submitted for laboratory analysis of TPH and BTEX. All soil samples were within Table 910-1 allowable limits. Throughout the lifetime of these wells, collected groundwater samples indicate exceedances at TMW-2, TMW-4, TMW-5, and TMW-7.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

[X] Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

Soil samples were previously collected to verify all impacted soil was removed. If additional soil samples are needed, Crestone requests that any additional soil samples be analyzed for Table 915-1 organic constituents of concern because the material spilled was exclusively hydrocarbon fluids.

Proposed Groundwater Sampling

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

Based on dissolved phase petroleum hydrocarbon impacts beneath the site, groundwater monitoring will be conducted on a quarterly basis. Crestone requests that future groundwater samples be analyzed for Table 915-1 organic constituents of concern because the material spilled was exclusively hydrocarbon fluids. Wells will be sampled on a quarterly basis until results are within COGCC Table 915-1 allowable limits for analyzed constituents of concern for four consecutive quarters.

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 groundwater monitoring wells will be installed to delineate groundwater impacts. Proposed well locations are attached. Soil borings will be completed, and soil from these borings will be logged and field-screened.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected: 17

Number of soil samples exceeeding 915-1: 0

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

Approximate areal extent (square feet): 800

NA / ND

-- Highest concentration of TPH (mg/kg): 390

NA Highest concentration of SAR:

BTEX > 915-1: No

Vertical Extent > 915-1 (in feet): 0

Groundwater

Number of groundwater samples collected: 35

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet): 13`

Number of groundwater monitoring wells installed: 8

Number of groundwater samples exceeding 915-1: 7

-- Highest concentration of Benzene (µg/l): 287

ND Highest concentration of Toluene (µg/l):

-- Highest concentration of Ethylbenzene (µg/l): 5.06

-- Highest concentration of Xylene (µg/l): 5

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?

☐ Were background samples collected as part of this site investigation?

☐ 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?

Additional groundwater monitoring wells will be installed to delineate groundwater impacts. Proposed well locations are attached.

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.

A hydrovac was used to remove all visual contamination. Soil borings were installed and soil samples were collected to verify that all contaminated soil was removed. Transport and disposal records will be kept on file under usual and customary practices and are available upon request.

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.

In March 2018, a hammer union was found leaking on a produced oil line. This leak resulted in a release of 75 barrels of condensate onto the pad surface. A hydrovac was immediately used to remove all visual soil contamination. On March 30, 2018, two 10-foot long, 4-inch diameter horizontal screens were installed into the excavated area which measured approximately 15 feet by 10 feet. The horizontal screens were covered with pea gravel and approximately 2,000 pounds of granular carbon. The excavated area was then backfilled. From January 2, 2019 to December 16, 2020, soil boring samples have confirmed all contaminated soils were removed or remediated.
Data from the most recent groundwater monitoring event (April 23, 2021) indicates that groundwater impacts are not delineated to the West. Additional groundwater monitoring wells will be installed to delineate the extent of impacts. Monitoring well installation is tentatively scheduled for July 2021.

Soil Remediation Summary

☐ **In Situ**

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

_____ Other _____

☐ **Ex Situ**

_____ 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)

Yes Chemical oxidation

□ Air sparge / Soil vapor extraction

Yes 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.

Based on dissolved phase petroleum hydrocarbon impacts beneath the site, groundwater monitoring will be conducted on a quarterly basis. Crestone requests that future groundwater samples be analyzed for Table 915-1 organic constituents of concern because the material spilled was exclusively hydrocarbon fluids. Wells will be sampled on a quarterly basis until results are within COGCC Table 915-1 allowable limits for analyzed constituents of concern for four consecutive quarters.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

[X] 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: [X] 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 will be completed with regard to the landowner agreement and in accordance with COGCC 1000 series rules. This facility is still active and is not scheduled for reclamation at this time.

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. 03/29/2018

Actual Spill or Release date, or date of discovery. 03/28/2018

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/28/2018

Proposed site investigation commencement. 03/28/2018

Proposed completion of site investigation.

REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/30/2018

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 form has been submitted to update the COGCC on Q1 and Q2 2021 groundwater monitoring data, to propose additional groundwater monitoring wells, and to request a reduced analyte list for future groundwater sampling. Please find groundwater monitoring data and a map of proposed additional wells attached. Monitoring well installation is tentatively scheduled for mid-July, and Q3 2021 groundwater sampling is tentatively scheduled for the end of July.

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

Signed:` Chris Rice Title: Environmental Technician

Submit Date:` Email: Christopher.Rice@CrestonePR.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: 12501

COA Type	Description

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
402730694	REMEDIATION PROGRESS REPORT

Total Attach: 1 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)