

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Laurel Anderson

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: 1801 CALIFORNIA STREET #2500		Phone: (303) 2947864
City: DENVER State: CO Zip: 80202		Mobile: (303) 8293811
Contact Person: Jacob Evans	Email: jevans@civiresources.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 3945 Initial Form 27 Document #: 1175632

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: TANK BATTERY	Facility ID: 477160	API #: _____	County Name: WELD
Facility Name: Luhman 1 battery	Latitude: 40.162971	Longitude: -104.891579	
** correct Lat/Long if needed: Latitude: 40.163006		Longitude: -104.891797	
QtrQtr: SESE	Sec: 4	Twp: 2N	Range: 67W Meridian: 6 Sensitive Area? Yes

Facility Type: SPILL OR RELEASE	Facility ID: 481133	API #: _____	County Name: WELD
Facility Name: Luhman 1 Tank Battery	Latitude: 40.162988	Longitude: -104.891952	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSE	Sec: 4	Twp: 2N	Range: 67W 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? No

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
Yes	GROUNDWATER	NA	Laboratory Analysis
Yes	SOILS	45' X 52' X 8' bgs	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.

A limited excavation was performed by Encana in 2007 to address impacted soil discovered during flowline maintenance. The excavation measured approximately 52 feet by 45 feet by 8 feet below ground surface (52' x 45' x 8' bgs). Soil samples were collected from the base of the excavation, West sidewall, and South sidewall and submitted for analysis of Total Recoverable Petroleum Hydrocarbons (TRPH) by U.S. Environmental Protection Agency (EPA) Method E418.1. The East and North sidewalls were not characterized. TRPH values of analyzed samples ranged from below the laboratory detection limit of 4.9 mg/kg to 6,700 mg/kg. The excavation was backfilled with the intent to re-excavate and delineate soil impacts at a later date. See the attached map for the approximate extents of the 2007 excavation.

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):

Five grab soil samples were collected from the extents of the excavation for analysis of TPH.

Proposed Groundwater Sampling

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

Groundwater samples will be collected for analysis of BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, naphthalene, and inorganic parameters.

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 5

-- Highest concentration of TPH (mg/kg) 6700

Number of soil samples exceeding 915-1 1

NA Highest concentration of SAR

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

BTEX > 915-1 No

Approximate areal extent (square feet) 2500

Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 5

-- Highest concentration of Benzene (µg/l) 14

Was extent of groundwater contaminated delineated? No

ND Highest concentration of Toluene (µg/l)

Depth to groundwater (below ground surface, in feet) 6

-- Highest concentration of Ethylbenzene (µg/l) 81

Number of groundwater monitoring wells installed 5

-- Highest concentration of Xylene (µg/l) 840

Number of groundwater samples exceeding 915-1 1

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?

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.

A limited excavation occurred in May 2007. Soil samples were collected during site assessment activities and submitted to a certified laboratory for analysis of Table 915-1 TPH C6-36, organics, metals, EC, SAR, pH, and boron. Source removal will be scheduled pending landowner approval.

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.

A site assessment was completed and five (5) groundwater monitoring wells were installed and will be sampled on a quarterly basis. The estimated timeframe to achieve a no further action will be December 30, 2025.

Soil Remediation Summary

In Situ

Ex Situ

 Bioremediation (or enhanced bioremediation)

Yes Excavate and offsite disposal

 Chemical oxidation

 If Yes: Estimated Volume (Cubic Yards) 693

 Air sparge / Soil vapor extraction

 Name of Licensed Disposal Facility or COGCC Facility ID #

 Natural Attenuation

No Excavate and onsite remediation

Other _____

Land Treatment

Bioremediation (or enhanced bioremediation)

Chemical oxidation

Other _____

Groundwater Remediation Summary

No _____ Bioremediation (or enhanced bioremediation)

No _____ Chemical oxidation

No _____ Air sparge / Soil vapor extraction

Yes _____ Natural Attenuation

No _____ 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.

Five (5) monitoring wells were installed and will be sampled on a quarterly basis. Samples will be collected for laboratory analysis for BTEX, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and inorganic parameters. Additional monitoring wells will be installed to achieve point of compliance sampling.

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 Site Assessment Report

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: \$ 150000

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:

The impacted soil was removed and treated at the Encana E&P Land Treatment facility.

Volume of E&P Waste (solid) in cubic yards 693

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

COGCC Disposal Facility ID #, if applicable: 149010

Non-COGCC Disposal Facility: _____

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? No

Is additional groundwater monitoring to be conducted? Yes

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.

This facility is still in production. When the facility is decommissioned, it will be reclaimed in accordance with 1000 Series rules and regulations.

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. 11/15/2022

Actual Spill or Release date, or date of discovery. 04/19/2007

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/19/2007

Proposed site investigation commencement. 04/19/2007

Proposed completion of site investigation. 09/30/2021

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/19/2007

Proposed date of completion of Remediation. 12/30/2025

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: Jacob Evans

Title: Environmental Advisor

Submit Date: 07/27/2023

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: Laurel Anderson

Date: 10/10/2023

Remediation Project Number: 3945

COA Type**Description**

	Operator shall provide a summary of landowner negotiations on the subsequent Supplemental Form 27.
	Operator shall: - Monitoring wells shall be constructed in accordance with the State Engineer's Water Well Construction and Permitting Rules - Submit a minimum of one soil sample for laboratory analysis of complete Table 915-1 contaminants of concern from each soil boring advanced during monitoring well installation. The sample collected will be from the interval(s) displaying the highest degree of impact or in the absence of apparent impacts from the estimated historic high water table and/or above soil-groundwater interface (Between 0-6' bgs). - Operator will analyze groundwater samples from all monitoring wells for full Table 915-1 Groundwater Parameters for a minimum of four quarterly monitoring events post remediation.
	On the subsequent Supplemental Form 27 Operator shall update the Site Investigation Report section with data from all soil and groundwater samples collected to date.
3 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**

403478283	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403478307	MONITORING REPORT
403556394	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 3 Files

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

Environmental	ECMC added related Spill/Release ID #481133 to the Site Information section.	10/10/2023
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Total: 1 comment(s)