

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: TAPROOT ROCKIES MIDSTREAM LLC	Operator No: 10718	<b>Phone Numbers</b>
Address: 555 17TH STREET SUITE 800		Phone: (701) 509-2063
City: DENVER	State: CO	Zip: 80202
Contact Person: Dave Braseal	Email: dbrazeal@taprootep.com	Mobile: ( )

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 28120 Initial Form 27 Document #: 403248076

**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**

No  Multiple Facilities

Facility Type: PRODUCED WATER TRANSFER SYSTEM	Facility ID: 467382	API #: _____	County Name: WELD
Facility Name: EWS#1 001	Latitude: 40.655070	Longitude: -104.068450	
	** correct Lat/Long if needed: Latitude: 40.661199	Longitude: -103.989859	
QtrQtr: NE NE	Sec: 22	Twp: 8N	Range: 60W Meridian: 6 Sensitive Area? No

**SITE CONDITIONS**

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use livestock

Is domestic water well within 1/4 mile? No 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:

- |                                                    |                                                      |                                        |
|----------------------------------------------------|------------------------------------------------------|----------------------------------------|
| <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 type="checkbox"/> Oil                       | <input type="checkbox"/> Tank Bottoms                |                                        |
| <input 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	25,000 sq ft.	surveyed aerial extent, analytical samples

## INITIAL ACTION SUMMARY

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

The Spill was discovered by a Civitas Operator around 12:00 AM on 9/5/22. The Operator notified Taproot. The pipeline segment was shutdown and isolated. A spill response and clean-up crew from Environmental Works, Inc. was dispatched and clean-up activities were ongoing beginning early morning on 9/5. maximum aerial extent was surveyed the morning following the release to help direct excavation. Soil removal from surface impacts continued through 9/8 with hand digging in areas, as well as mechanical digging. The primary excavation required hydroexcavation to a depth of 9' below ground surface, and was ongoing through Friday 9/9. A short section of 4" Shawcor Flexpipe rated for 750 psig failed at only 375 psig. The failed piping was removed and replaced with stainless steel piping. Approximately 250' of the Shawcore was replaced with stainless steel pipe, was inspected and pressure tested on 9/13. The failed section of pipe is being sent to a lab in Longmont to determine the cause of the failure. Additional hydro-excavation took place following lab analysis of the initial samples. Soil sampling was conducted following excavation activities to achieve vertical and spatial delineation in compliance with Table 915 concentrations.

## 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 ):

Several sidewall samples exceeded Table 915 within the primary excavation. Due to facility infrastructure no additional sampling or excavation is recommended. exceedances of reclamation parameters below the root zone may be left in place with the development of a reclamation plan. FS1 and FS2 from the bottom of the excavation indicate the vertical extent of impacts have been delineated. The follow up sampling in August 2024 spatially delineated SAR and EC as requested by ECMC.

### Proposed Groundwater Sampling

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

Groundwater is deep at the Site. COGCC has previously agreed that RSSLs may be used at this Site for groundwater estimated at greater than 70'.

### Proposed Surface Water Sampling

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

No surface water is present at or near the Site.

## Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

A reclamation plan has been developed with SWCA consultants for the purpose of leaving limited elevated inorganics in-situ where facility infrastructure limits further excavation.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 49  
Number of soil samples exceeding 915-1 27  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 25000

**NA / ND**

-- Highest concentration of TPH (mg/kg) 205  
-- Highest concentration of SAR 34.8  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 9

**Groundwater**

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? No  
Depth to groundwater (below ground surface, in feet) 70  
Number of groundwater monitoring wells installed 0  
Number of groundwater samples exceeding 915-1 0

NA Highest concentration of Benzene (µg/l) \_\_\_\_\_  
NA Highest concentration of Toluene (µg/l) \_\_\_\_\_  
NA Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_  
NA Highest concentration of Xylene (µg/l) \_\_\_\_\_  
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?

Produced water flowed to the southwest and crossed onto ranch land. Aerial extent was surveyed and initial soil was removed. The owner was notified immediately.

Were background samples collected as part of this site investigation?

Background samples indicated high levels of Arsenic above the RSSLs. Barium, lead, and selenium were also above the Protection of Groundwater screening levels.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 280 Volume of liquid waste (barrels) 100

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.

Hydroexcavation and mechanical digging was completed to the extent practicable to remove remaining limited soil in exceedance of Table 915.

**REMEDICATION 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.

Limited soil in exceedance of Table 915 reclamation parameters remain at the Site. Where depth or facility infrastructure limit the ability to remove soil, limited exceedances of Table 915 inorganics may be left in place below the root zone with the development of a reclamation plan. A reclamation plan will be developed in the fourth quarter of 2024, and NFA should be approved by the first quarter of 2025.

**Soil Remediation Summary**

In Situ

Ex Situ

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

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

\_\_\_\_\_ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_

Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_

Natural Attenuation

Excavate and onsite remediation

Yes  Other  leave limited elevated organics  
in place with development of a  
reclamation plan \_\_\_\_\_

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

No  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.

Groundwater is deep at the Site and sampling will not be required.

# 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 Reclamation Planning

## 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.

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

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

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 \_\_\_\_\_

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

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

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

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

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

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

# REMEDIATION COMPLETION REPORT

## REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Does Groundwater meet Table 915-1 standards? Yes

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.

Interim reclamation has been completed to the extent practicable for an active facility.

Is the described reclamation complete? Yes

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? No

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? No

### **SITE RECLAMATION DATES**

Proposed date of commencement of Reclamation. 10/11/2024

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

## 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. 09/05/2022

Actual Spill or Release date, or date of discovery. 09/05/2022

### **SITE INVESTIGATION DATES**

Date of Initial Actions described in Site Investigation Plan (start date). 12/09/2022

Proposed site investigation commencement. 12/09/2022

Proposed completion of site investigation. 01/30/2023

### **REMEDIAL ACTION DATES**

Proposed start date of Remediation. 01/03/2023

Proposed date of completion of Remediation. 11/14/2024

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**

Request for closure.

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

Signed: Dale Hunt \_\_\_\_\_

Title: VP of Engineering \_\_\_\_\_

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

Email: dhunt@taprootep.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: 28120 \_\_\_\_\_

**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**

403995784	MONITORING REPORT
403995788	SOIL SAMPLE LOCATION MAP
403995790	SOIL SAMPLE LOCATION MAP
403995792	ANALYTICAL RESULTS
403995793	ANALYTICAL RESULTS
403995794	OTHER
403995795	ANALYTICAL RESULTS
403995796	PHOTO DOCUMENTATION
403995797	OTHER
403995819	RECLAMATION PLAN

Total Attach: 10 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)