

State of Colorado  
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
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Report taken by:

Krystal Heibel

## 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	Phone Numbers
Address: 555 17TH STREET SUITE 800		Phone: (701) 509-2063
City: DENVER	State: CO	Zip: 80202
Contact Person: Dave Brazeal		Mobile: ( )
Email: Dbrazeal@taprootep.com		

## PROJECT, PURPOSE &amp; SITE INFORMATION

## PROJECT INFORMATION

Remediation Project #: 28892 Initial Form 27 Document #: 403295895

## 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: SPILL OR RELEASE	Facility ID: 483128	API #: _____	County Name: WELD
Facility Name: Pintail Lateral Release		Latitude: 40.711719	Longitude: -104.067736
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: NW SE	Sec: 35	Twp: 9N	Range: 60W Meridian: 6 Sensitive Area? No

## SITE CONDITIONS

General soil type - USCS Classifications CL 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:**☒ **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	13,500 sq ft	Surveyed, soil sampling

**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 Release was observed around 1:15 PM on 10/17/22 by the oil and gas operator to the northeast of the Site. water had pooled at the surface and began flowing south, parallel to the produced water line. By 5:00 PM the maximum surficial extents were delineated and surveyed. The line was shut down immediately, and vacuum excavation began at 8:00 AM on 10/18/2022. The ruptured 6" thermoflex pipe was daylighted around 9:00 AM on 10/18, had buckled upwards, and a dime sized hole was observed. Excavation activities continued, including shallow excavation of impacted surface soils, confirmation sampling, and vacuum excavation of the line to remove any additional fluid. Approximately 1000 yards of soil with exceedances of reclamation parameters have been excavated and removed at the Site. This entire segment of Thermoflex pipe has been removed and replaced with Flexsteel.

**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 ):

Additional soil sampling was completed to complete spatial and vertical delineation within the soil. 10 soil borings are proposed, with an anticipated two samples at different depths collected from each for vertical delineation. Samples are proposed on all sides of the primary excavation, as well as within the secondary excavation where water flowed over the surface and impacted shallow soils. Borings are anticipated to

**Proposed Groundwater Sampling**

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

**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 ):

Soil was hauled off where analytical results indicate it is in excess of the Table 915 standards within the primary root zone.

**SITE INVESTIGATION REPORT**

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 21  
Number of soil samples exceeding 915-1 7  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 13500

### NA / ND

ND Highest concentration of TPH (mg/kg) \_\_\_\_\_  
-- Highest concentration of SAR 3.94  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 11

### Groundwater

Number of groundwater samples collected 0  
Was extent of groundwater contaminated delineated? No  
Depth to groundwater (below ground surface, in feet) 50  
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?

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

Two background samples have been collected from a depth of 0-0.5', 3-3.5', (BS1) and 7.5-8' (SB4) below ground surface.

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

Volume of solid waste (cubic yards) 1000 Volume of liquid waste (barrels) 130

☐ 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.

Two different excavations were performed to remove soil in excess of Table 915-1 reclamation parameters. Limited remaining exceedances of Table 915-1 reclamation parameters are to be left in place below the primary root zone in accordance with rule 915b.

## 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.

The Site investigation plan had a direct push drill rig delineate the limited remaining exceedances within soil and guide the second excavation. Limited exceedances of reclamation parameters may be left in place with the development of a reclamation plan. A reclamation plan has been developed that satisfies ECOM 900 series rules, allowing for limited exceedances of Table 915-1 to be left below the primary root zone. Closure and NFA will be reached with approval of the reclamation plan.

## Soil Remediation Summary

☒ In Situ

☒ Ex Situ

☐ Bioremediation ( or enhanced bioremediation )

☐ Chemical oxidation

☐ Air sparge / Soil vapor extraction

☐ Natural Attenuation

☐ Yes    ☐ Other    Leave limited inorganics in place with the development of a reclamation plan.

☐ Yes    Excavate and offsite disposal

☐ If Yes: Estimated Volume (Cubic Yards)    1000

☐ Name of Licensed Disposal Facility or ECMC Facility ID #

☐ No    Excavate and onsite remediation

☐ 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

☐ 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 estimated to be deep at the Site and sampling is not anticipated. Evidence for deep groundwater is attached in the report as appendix E.

## 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 Plan

### 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 anticipated cost for the remaining remediation of this site is expected to be less than \$20,000. Taproot has \$2,000,000 of General Liability Insurance, and \$5,000,000 of Excess Liability Insurance. Taproot also has sufficient cash flow to cover this remediation.

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

### 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:

None

Volume of E&P Waste (solid) in cubic yards \_\_\_\_\_ 1000

E&P waste (solid) description High Boron, pH, SAR, or Specific Conductance soil

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

Non-ECMC Disposal Facility: Pawnee Waste LLC

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_ 130

E&P waste (liquid) description Hydro-excavation material

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

Non-ECMC Disposal Facility: Pawnee Waste LLC

## 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 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.

A reclamation plan has been developed to meet the requires of ECMC Guidance Rule 915B. Closure and NFA determination will be reached with the approval of the reclamation plan.

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? Yes

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

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

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 04/26/2024

Proposed date of completion of Reclamation. 06/29/2024

## 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. 10/17/2022

Actual Spill or Release date, or date of discovery. 10/17/2022

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/17/2023

Proposed site investigation commencement. 01/31/2023

Proposed completion of site investigation. 02/28/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 02/28/2023

Proposed date of completion of Remediation. 04/27/2024

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**

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: 04/30/2024

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: Krystal Heibel

Date: 06/24/2024

Remediation Project Number: 28892

**COA Type****Description**

	<p>If the Operator proposes to leave material with elevated levels of pH, SAR, and EC in situ, the Operator shall define the vertical and lateral extent of impacts and provide a detailed Reclamation plan that includes, but is not limited to, soil analysis from adjacent undisturbed lands, revegetation techniques, site stabilization, and details of seeded species. Operator will submit the Reclamation plan pursuant to Rule 915.b. on a Form 27 Supplemental Report for Director review.</p> <p>Per rule, Operators are not allowed to leave material with elevated boron in situ. Operator shall provide an alternative remediation plan for the boron exceedances.</p>
	<p>Arsenic concentrations in confirmation soil samples exceed the Table 915-1 Residential Soil Screening Level Concentrations and are greater than 1.25 times the arsenic concentration in the background sample. Operator will provide additional data to characterize arsenic concentrations at the site and to determine its source.</p>
2 COAs	

**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**

403748212	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403765560	RECLAMATION PLAN
403765562	REMEDATION PROGRESS REPORT
403765840	OTHER
403765842	ANALYTICAL RESULTS
403765843	PHOTO DOCUMENTATION
403765846	LOGS
403765847	GROUND WATER ELEVATION MAP
403765848	SOIL SAMPLE LOCATION MAP
403765849	SOIL SAMPLE LOCATION MAP
403765850	ANALYTICAL RESULTS
403834213	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 12 Files

**General Comments**

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	ECMC approves Operator's request for use of Residential SSLs based on the depth to groundwater and the local lithology suggesting a pathway to groundwater at this location is not likely.	06/24/2024

Total: 1 comment(s)