

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404671521

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 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		
City: DENVER	State: CO	Zip: 80202
Contact Person: Dave Brazeal	Email: dbrazeal@taprootep.com	
		Phone: (701) 509-2063
		Mobile: (701) 509-2063

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, on 11/10/22 and 11/11/22, following lab analysis of the initial samples. Soil sampling was conducted following excavation activities to achieve 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):

The shallow impacts to the northeast of the release location (SS10 and SS11) had had exceedances in multiple reclamation parameters and required excavation/confirmation sampling. SS10 after excavation had no exceedances. SS11 had one exceedance in SAR, 6.67. (RSSL: 6)
 Sample SS6 slightly exceeded reclamation parameters (SAR and Specific Con.) at 0.5' depth. Additional excavation and confirmation sampling yielding only a small exceedance of 4.6 mmhos/cm (RSSL: 4 mmhos/cm).
 Several sidewall samples exceeded Table 915 within the primary excavation. Additional sampling or excavation was conducted during the replacement of the faulty Thermoflex pipeline. The additional side wall samples had exceedances of reclamation parameters below the root zone may be left in place with the development of a reclamation plan. FS1 and FS2 were resampled at the bottom of the additional excavation indicate the vertical extent of impacts have been delineated and had no exceedances in reclamation parameters.

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. ECMC has previously agreed that RSSLs may be used at this Site due to groundwater estimated at greater than 70'. Reference document #: 403087804.

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 the Site.

Additional Investigative Actions

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

Using field observations and collected analytical data, SWCA developed this Plan to propose various options for revegetation (e.g., seedbed preparation, seeding, noxious weed control, monitoring, adaptive management). A seed mix recommendation is available in Table 4 of the plan. SWCA further recommends that follow-up monitoring occur for a minimum of two growing seasons to verify remediation effectiveness and desirable revegetation.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 61

Number of soil samples exceeding 915-1 48

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) 100

-- Highest concentration of SAR 17.8

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.

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 performed to remove soil in exceedance of Table 915. Limited exceedances remain below the primary root zone in areas inaccessible to excavation due to facility infrastructure.

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.

Limited soil in exceedance of Table 915 remains at the Site. Additional Excavation and confirmation sampling was performed and remove most of the remaining impacts. 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 has previously been developed for this Site and Site closure was achieved before a supplemental produced water release occurred in the same location. In document #403087804, ECMC agreed remaining impacts were limited, and Site closure was achieved.

Soil Remediation Summary

In Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

Yes _____ Other leave limited elevated inorganics in place with implementation of the reclamation plan

Ex Situ

Yes _____ Excavate and offsite disposal

_____ If Yes: Estimated Volume (Cubic Yards) _____ 300

_____ 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

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. RSSL used based on previous approval from document # 403087804.

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? 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.

Reclamation Plan is attached. Recontouring, compaction are not required because the site is an active facility that was immediately reclaimed after excavation. Where topsoil replacement was required, topsoil resources of similar physicochemical properties (i.e., soil pH, soil EC/SAR, organic matter content, soil texture) were imported. The reclamation plan proposes various options for revegetation (e.g., seedbed preparation, seeding, noxious weed control, monitoring, adaptive management). A seed mix recommendation is available in Table 4 of the 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? 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. 10/01/2026

Proposed date of completion of Reclamation. 10/01/2028

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). 09/05/2022

Proposed site investigation commencement. 10/08/2022

Proposed completion of site investigation. 02/12/2026

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/05/2022

Proposed date of completion of Remediation. 02/12/2026

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 27A is supplemental to the related form #403248076.

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	
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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**

404671584	RECLAMATION PLAN
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)