

State of Colorado
Energy & Carbon Management Commission

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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 ECOM 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 Mobile: ()
Contact Person: Dave Brazeal Email: Dbrazeal@taprootep.com

PROJECT, PURPOSE & 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 Flexsteal.

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 ECMC 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)

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

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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: 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)