

State of Colorado Oil and Gas Conservation Commission

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 21050 Initial Form 27 Document #: 402869921

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: 480564	API #: _____	County Name: WELD
Facility Name: Boomslang 14B PW Leak	Latitude: 40.659458	Longitude: -104.049692	
** correct Lat/Long if needed: Latitude: 40.659160		Longitude: -104.049033	
QtrQtr: NESE	Sec: 14	Twp: 8N	Range: 60W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

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

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

Domestic water well located to the north (permit# 43844) is not operation and has not been used for years per well owner.

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	<1000 Sq. Ft	Soil Analytical Results

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 leak was discovered on the Bison Boomslang 14B well pad on 08/18/2021. It was determined to be from the Taproot Produced Water Transfer system. The system was shut down, isolated, and cleanup began. Most of the spill was contained on pad and within the retention pond built with the pad. A section of 6" Thermoflex 750 psi pipeline had buckled, and the thin spot created by the buckling failed at about 482 psig (well below the 750 psig rating). The piping had been in service since January of 2020. Taproot replaced all Thermoflex piping on this line with Flexsteel, and will no longer be using Thermoflex piping on any future lines.

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 samples will be collected surrounding soil sample SS1 due to an exceedance of SAR. Samples from the retention pond exceeded Table 915, but not due to the release. Elevated pH is attributed to the evaporitic nature of the retention pond. The retention pond is part of the facility infrastructure and will not require additional remediation at this time.

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):

Taproot will develop a Site Reclamation Plan following additional excavation and confirmation sampling. The reclamation plan will be submitted on a subsequent Form 27 with the help of a reclamation specialist in accordance with COGCC guidance Rule 915b and the draft Reclamation Plan provided by the COGCC, to receive a NFA determination.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 23

Number of soil samples exceeding 915-1 15

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 6900

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

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.

NA / ND

-- Highest concentration of TPH (mg/kg) 260

-- Highest concentration of SAR 17.9

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 9

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)

OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

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

One background sample was collected (BS1) from an area unaffected by the produced water release. The background sample indicated elevated Arsenic, barium, selenium, and pH in the soil.

☐ 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?

Additional soil excavation surrounding soil sample SS1 will be required, with confirmation soil sampling following excavation.

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.

Additional soil excavation surrounding soil sample SS1 will be required, with confirmation soil sampling following excavation. Limited exceedances of Table 915-1 are to be left in place below the root zone in accordance with rule 915b, development of a comprehensive reclamation plan.

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.

Additional soil excavation surrounding soil sample SS1 will be required, with confirmation soil sampling following excavation. Limited exceedances of reclamation parameters within the retention pond are due to the evaporitic environment and are not a result of the release. Additionally, the retention pond is part of active facility infrastructure and does not require remediation at this time. A reclamation plan will be developed and submitted in a subsequent Form 27 that satisfies COGCC 900 series rules, allowing for limited exceedances of Table 915-1 to be left in place below the root zone. Closure and NFA determination will be reached with approval of the reclamation plan.

Soil Remediation Summary

☒ In Situ

☒ Ex Situ

No Bioremediation (or enhanced bioremediation)

 No Chemical oxidation

 No Air sparge / Soil vapor extraction

 No Natural Attenuation

 Yes Other soils will be left in place below
the root zone with the
development of a reclamation
plan

 Yes Excavate and offsite disposal

 If Yes: Estimated Volume (Cubic Yards) 10

 Name of Licensed Disposal Facility or COGCC Facility ID #

 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.

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

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

Volume of E&P Waste (liquid) in barrels

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?

Is additional groundwater monitoring to be conducted?

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.

Following the shallow excavation surrounding SS1 and confirmation sampling, A reclamation plan will be developed to meet the requirements of COGCC 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? _____

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. 08/18/2021

Actual Spill or Release date, or date of discovery. 08/18/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). _____

Proposed site investigation commencement. 03/21/2022

Proposed completion of site investigation. 04/15/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/15/2022

Proposed date of completion of Remediation. 05/20/2022

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: ` _____

Email: dhunt@taprootep.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: _____

Date: _____

Remediation Project Number: 21050 _____

COA Type**Description**

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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**

402987659	SITE INVESTIGATION PLAN
402987672	ANALYTICAL RESULTS

Total Attach: 2 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)