

State of Colorado Oil and Gas Conservation Commission

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12/28/2022

Report taken by:

Jason Kosola

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: EVERGREEN NATURAL RESOURCES LLC	Operator No: 10705	Phone Numbers
Address: 1875 LAWRENCE ST STE 1150		Phone: (303) 2848820
City: DENVER	State: CO	Zip: 80202
Contact Person: Mackenzie Smith	Email: mackenzie.smith@enrllc.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 19662 Initial Form 27 Document #: 402782552

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: PIT	Facility ID: 112908	API #: _____	County Name: LAS ANIMAS
Facility Name: RED DOG 21-32		Latitude: 37.221312	Longitude: -104.695807
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: NENW	Sec: 32	Twp: 32S	Range: 65W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications CH Most Sensitive Adjacent Land Use Non-Crop Land

Is domestic water well within 1/4 mile? Yes Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

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	TBD	Soil 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.

All CBM water was removed from the pit and transported to the gunbarrel system at Burro Compressor Station by an ENR employee in an ENR owner water truck.

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):

Soil samples were collected and attached hereto. Soil samples will continue to be collected until soil levels are in compliance with table 915-1.

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 samples do not indicate conditions improving, and therefore Evergreen completed a full remediation and excavation of the soil within the Red Dog pit. Evergreen soil samples post-excavation indicate that soil at deeper levels may be impacted with elevated pH and SAR levels. Therefore, Evergreen intends to continue the remediation of the soil within the pit, through treatment with bioremediation products.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 16

Number of soil samples exceeding 915-1 15

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

Approximate areal extent (square feet) 1404

-- Highest concentration of TPH (mg/kg) 1600

-- Highest concentration of SAR 42

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 1

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 0

Number of groundwater samples exceeding 915-1

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

Highest concentration of Methane (mg/l)

Surface Water

0 Number of surface water samples collected

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?

Composite native samples from 4 different areas were collected in the initial sampling event on June 24, 2021. No additional background samples are expected to be collected during this investigation

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

Volume of solid waste (cubic yards) 308

Volume of liquid waste (barrels) 0

☒ Is further site investigation required?

Soil samples do not indicate conditions improving, and therefore Evergreen completed a full remediation and excavation of the soil within the Red Dog pit. Evergreen soil samples post-excavation indicate that soil at deeper levels may be impacted with elevated pH and SAR levels. Therefore, Evergreen intends to continue the remediation of the soil within the pit, through treatment with bioremediation products.

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.

Impacted soil was treated with Oil Gator bioremediation product on September 21, 2021 and mixed into the impacted soil. SDS and product application description are attached hereto. The product was further mixed on October 28, 2021 and November 10, 2021. Second round of soil samples were collected on December 14th, 2021, and third round was collected on February 28, 2022. Results showed improvement in soil quality through the treatment process. A second round of bioremediation product was applied on June 10, 2022, however soil samples, completed on July 27th, 2022, indicated no improvement from remediation attempts. Between October 4th and 14th, 2022, 432 tons (308 cubic yards) of source material from the Red Dog Pit was removed from the pit and hauled by a third party to the Trinidad Landfill. Additional samples were then completed on October 26th.

REMEDIAL ACTION 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.

Between October 4th and 14th, 2022, 432 tons (308 cubic yards) of source material from the Red Dog Pit was removed from the pit and hauled by a third party to the Trinidad Landfill. Additional samples were then completed on October 26th.

Soil Remediation Summary

☒ In Situ

Yes Bioremediation (or enhanced bioremediation)

☒ Ex Situ

Yes Excavate and offsite disposal

☐ Chemical oxidation
☐ Air sparge / Soil vapor extraction
☐ Yes Natural Attenuation
☐ Other _____

If Yes: Estimated Volume (Cubic Yards)

Name of Licensed Disposal Facility or COGCC Facility ID # _____

☐ No Excavate and onsite remediation

☐ No Land Treatment

☐ No Bioremediation (or enhanced bioremediation)

☐ Chemical oxidation

☐ Other _____

Groundwater Remediation Summary

☐ No Bioremediation (or enhanced bioremediation)

☐ Chemical oxidation

☐ Air sparge / Soil vapor extraction

☐ 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.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☐ Quarterly☐ Semi-Annually☐ Annually☒ Other

Upon collection and receipt of additional soil samples taking into consideration winter conditions.

☐ 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

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 does not have site-specific financial assurance for this project, however Operator has inactive well, blanket and surface bonding, as well as commercial general liability and/or umbrella/excess insurance meeting the requirements of 705.b. Operator does not anticipate making an insurance claim for this report. Assessment activities as outlined herein are proposed. Costs included herein are estimates only and they may change over time base on numerous factors. Accordingly, Operator makes no guarantee as to the accuracy of such cost estimates, thus providing that estimate for the next year below.

Operator anticipates the remaining cost for this project to be: \$ 5000

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? _____

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: _____

REMEDATION COMPLETION REPORT

REMEDATION 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? _____

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.

Existing pit pile will be used to backfill pit. Should additional material be needed, clean fill will be hauled in. Area will be reclaimed to match existing countour, seeded and mulched.

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. 08/30/2021

Proposed date of completion of Reclamation. 04/30/2023

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. _____

Actual Spill or Release date, or date of discovery. 06/17/2021

SITE INVESTIGATION DATES

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

Proposed site investigation commencement. _____

Proposed completion of site investigation. _____

REMEDIAL ACTION DATES

Proposed start date of Remediation. 08/23/2021

Proposed date of completion of Remediation. 04/30/2024

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: Mackenzie Smith

Title: Production Engineer

Submit Date: 12/28/2022

Email: mackenzie.smith@enrllc.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: Jason Kosola

Date: 02/02/2023

Remediation Project Number: 19662

COA Type**Description**

	Operator shall obtain next round of sampling no later than 2nd quarter 2023. Subsequent reporting shall occur in the 2nd and 4th quarter each year until No Further Action is obtained.
1 COA	

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**

403273391	FORM 27-SUPPLEMENTAL-SUBMITTED
403273436	ANALYTICAL RESULTS
403273437	ANALYTICAL RESULTS
403273438	DISPOSAL MANIFESTS

Total Attach: 4 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)