

**State of Colorado**  
**Oil and Gas Conservation Commission**

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403260777  
Receive Date:  
12/14/2022  
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: <u>EVERGREEN NATURAL RESOURCES LLC</u>	Operator No: <u>10705</u>	<b>Phone Numbers</b>
Address: <u>1875 LAWRENCE ST STE 1150</u>		Phone: <u>(303) 2848820</u>
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Mackenzie Smith</u>	Email: <u>mackenzie.smith@enrllc.com</u>	Mobile: <u>( )</u>

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 21982 Initial Form 27 Document #: 402953583

**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: <u>WATER GATHERING SYSTEM/LINE</u>	Facility ID: <u>427440</u>	API #: _____	County Name: <u>LAS ANIMAS</u>
Facility Name: <u>Raton Basin Water Gathering 427440</u>	Latitude: <u>37.133130</u>	Longitude: <u>-104.697080</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NENW</u>	Sec: <u>32</u>	Twp: <u>33S</u>	Range: <u>65W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

**SITE CONDITIONS**

General soil type - USCS Classifications SC Most Sensitive Adjacent Land Use non-crop  
Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes  
Is groundwater less than 20 feet below ground surface? Yes

**Other Potential Receptors within 1/4 mile**

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# 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	1"	visual inspection

## 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 caused due to a produced water gathering line break. It is estimated that 22.35bbls spilled. The Spill ran down the access road where it the entered a culvert, allowing the water to flow into a dry arroyo on the east side off the road. It has been identified the spill entered the dry arroyo which has been identified as waters of the state. Upon finding, teams were deployed to isolate the line and stop the leak. The cause of the spill was determined to be a worn fuse on the buried gathering line. The line was isolated while the line was repaired.

## 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 taken downstream of the source of the leak to determine the horizontal extent of the spill. Samples were collected on 10/18/2021.  
SS1 : 37.148856, -104.738640 - grab sample  
SS2 : 37.148806, -104.738707 - grab sample  
SS3 : 37.148680, -104.738719 - grab sample  
SS4 : 37.148759, -104.738808 - grab sample (NATIVE)

All samples were analyzed for TPH (C6-C36), Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)), as per COA's.

### 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 sample results show that the impact of the produced water spill decreases along the pathway of the spill. The results do not meet Table 915-1 standards in several areas. Therefore, a sampling plan will be established to continue to monitor the effects of the spill on the soil environment. Sampling at the same locations (in the spill pathway) or approximate locations in the spill pathway will be completed 4 months from original sample date, and 6 months from the original sample date, taking into consideration impacts of snow coverage. No additional Native samples will be collected for this Site Investigation Plan.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

**Soil**

Number of soil samples collected 13  
Number of soil samples exceeding 915-1 12  
Was the areal and vertical extent of soil contamination delineated? No  
Approximate areal extent (square feet) 1503

**NA / ND**

-- Highest concentration of TPH (mg/kg) 21  
-- Highest concentration of SAR 4.8  
BTEX > 915-1 No  
Vertical Extent > 915-1 (in feet) 0

**Groundwater**

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

1 background sample (37.148759, -104.738808) was collected during the initial round of sampling for this spill. Lab results indicated that the Native sample exceeded several of the 915-1 table standards.

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?

Evergreen is requesting that further site investigation be completed semi-annually. The only constituent left to be monitored on the location is pH. Sampling on April 28, 2022 indicated that pH levels were still above Table 915-1 standards and Native background samples. Therefore, ENR intends to continue pH sampling. Follow up soil sampling was completed on October 27, 2022. SS1 and SS2 indicated increased levels of pH and will continue to be analyzed. SS3 pH levels matched the background samples and will no longer be analyzed.

**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.

Natural Attenuation of produced water will be determined through the second round of soil sampling. Source has been determined to be removed.

**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.

With results back, it is determined that remediation is not necessary. Natural attenuation will continue to be utilized for remediation efforts.

**Soil Remediation Summary**

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

\_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_

Air sparge / Soil vapor extraction

Yes Natural Attenuation

Other \_\_\_\_\_

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

With the only remaining exceedance being in pH, Evergreen is requesting that a modified reporting schedule be allowed to allow for snow melt and April rainfall to help with further attenuation through the soils.

### 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.

Remaining costs for remediation of this spill are expected to be <\$1000. Operator's general liability insurance and Financial Assurance covers these operations entirely. No claim is anticipated for this spill remediation.

Operator anticipates the remaining cost for this project to be: \$ 1000 \_\_\_\_\_

## 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: \_\_\_\_\_

# 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? Yes \_\_\_\_\_

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 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.

The soil samples taken from within the spill pathway indicate that the produced water has attenuated. pH levels remain higher than Table 915-1 standards.

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. \_\_\_\_\_

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. 10/16/2021

Actual Spill or Release date, or date of discovery. 10/11/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/12/2021

Proposed site investigation commencement. 10/11/2021

Proposed completion of site investigation. 04/11/2022

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/11/2022

Proposed date of completion of Remediation. 10/11/2022

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: Mackenzie Smith

Title: Production Engineer

Submit Date: 12/14/2022

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: 21982

**COA Type****Description**

	COGCC approves alternate reporting schedule. Operator shall submit next Form 27 Supplemental in the 3rd quarter 2023 with subsequent reporting due in the 1st and 3rd quarter each year until No Further Action is reached.
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**

403260777	FORM 27-SUPPLEMENTAL-SUBMITTED
403260794	ANALYTICAL RESULTS
403260795	ANALYTICAL RESULTS

Total Attach: 3 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)