

State of Colorado  
Energy & Carbon Management Commission

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Report taken by:

Steven Arauza

## 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: LARAMIE ENERGY LLC	Operator No: 10433	Phone Numbers Phone: (970) 9019007 Mobile: (970) 9019007
Address: 1700 LINCOLN ST STE 3950		
City: DENVER	State: CO Zip: 80203	
Contact Person: Matt Kasten	Email: mkasten@laramie-energy.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 17836 Initial Form 27 Document #: 402655184

#### 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: 479751	API #: _____	County Name: GARFIELD
Facility Name: Baker Canyon	Latitude: 39.464769	Longitude: -108.243560	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENW	Sec: 8	Twp: 7S	Range: 97W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications GC Most Sensitive Adjacent Land Use non-crop land

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? No

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

Static GW depths 25' - 31' BGS.

**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	GROUNDWATER	TBD	Additional delineation needed
Yes	SOILS	TBD	Soil Sampling
No	SURFACE WATER	NA	Lab reported

**INITIAL ACTION SUMMARY**

Description of initial action or emergency response measures take to abate, investigate, and/or remediate impacts associated with E&amp;P Waste.

During lease operations, water was found to be surfacing along the gas processing line. Line was immediately shut in and a berm and booms were installed around leak area to minimize spill. Initial soil samples were collected to characterize surface spill impact. Additionally, a water sample was collected down gradient from spill area along Conn Creek. It is not anticipated that Conn Creek will be impacted with the release. Excavation of the area will be completed once the utilities are cleared. Additional information will be provided with the Supplemental Form 19.

**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 borings proposed to further delineate south of pipeline ROW. All soil samples will be analyzed for table 915.

**Proposed Groundwater Sampling**☒ Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

Groundwater sampling to continue during delineation bi-weekly to monitor wells and will be analyzed for 915.

**Proposed Surface Water Sampling**☒ Will surface water samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

Surface water is being monitored by field staff to ensure no sheen occurs. Sampling of surface water will occur during events.

**Additional Investigative Actions**☐ Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

Further delineation of site is proposed, following south of the pipeline ROW.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 0  
Number of soil samples exceeding 915-1 0  
Was the areal and vertical extent of soil contamination delineated? \_\_\_\_\_  
Approximate areal extent (square feet) \_\_\_\_\_

### NA / ND

\_\_\_\_\_ Highest concentration of TPH (mg/kg) \_\_\_\_\_  
\_\_\_\_\_ Highest concentration of SAR \_\_\_\_\_  
BTEX > 915-1 \_\_\_\_\_  
Vertical Extent > 915-1 (in feet) \_\_\_\_\_

### Groundwater

Number of groundwater samples collected 13  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 27  
Number of groundwater monitoring wells installed 0  
Number of groundwater samples exceeding 915-1 2

-- Highest concentration of Benzene (µg/l) 906  
-- Highest concentration of Toluene (µg/l) 68.6  
-- Highest concentration of Ethylbenzene (µg/l) 93.4  
-- Highest concentration of Xylene (µg/l) 646  
NA Highest concentration of Methane (mg/l) \_\_\_\_\_

### Surface Water

1 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?

background samples were collected during initial investigation

☐ 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?

Continuation of EFR, will continue at quarterly intervals for project. Effectiveness will be evaluated in future sampling events. EFR will primarily be focused on MW5 and MW9 for approach. MW5 is nearest location to POR when leak occurred. Plume appears to be condensing to POR area with recent data. EFR will be more aggressive in future quarters to eliminate centralized plume.

## 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.

Original source was to be removed by heavy equipment. After repair, excavation began and was determined that a drill rig was needed to delineate location. If source removal is transported to facility for disposal, supplemental form 27(s) will be updated and provide documentation. Due to source being beyond excavator reach and within pipeline corridor, additional drilling and remediation approach will be selected after next phase of delineation. Enhanced fluid recovery is being presented as an option for groundwater removal, plans internal have not been decided if that is the best option or to utilize the SVE trailer to the project. When decided, COGCC will be notified about next steps. Enhanced fluid recovery will continue on source wells.

## 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.

Delineation complete of release and is focused near POR. Enhanced Fluid recovery will need to occur within area due to high pressure lines. With impacts present, timeline for closure will be over 1 years time. Estimated 2025 for closure if effectiveness of EFR is remediating water in effective manner.

Soil Remediation Summary

☐ In Situ

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

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

\_\_\_\_\_ Air sparge / Soil vapor extraction

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Other \_\_\_\_\_

☒ Ex Situ

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

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 65

Name of Licensed Disposal Facility or ECMC Facility ID # \_\_\_\_\_

\_\_\_\_\_ Excavate and onsite remediation

\_\_\_\_\_ Land Treatment

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

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

\_\_\_\_\_ Other \_\_\_\_\_

Groundwater Remediation Summary

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

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

Yes \_\_\_\_\_

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.

Monthly sampling will be requested to go to quarterly in this report on last page.

## 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 Rem Progress Report

### 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.

Based on the current COI provided by Acord, Laramie Energy has a total of \$16MM of sudden & accidental pollution. The primary layer in the General Liability Policy is \$1MM per occurrence and a \$15MM umbrella totaling \$16MM. Sampling, EFR, Borings, Estimated timeframe for logistics (2 years), Project will near \$65000, estimated remaining closure \$15000

Operator anticipates the remaining cost for this project to be: \$ 15000

### 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:

na

Volume of E&P Waste (solid) in cubic yards 65

E&P waste (solid) description soil with hydrocarbon impacts/original pothole material added to disposal for line locates

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Greenleaf

Volume of E&P Waste (liquid) in barrels 0

E&P waste (liquid) description na

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: na

## 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?

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 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/seeding is not expected to be part of this project. If reclamation must occur, 1000 series rules will be followed and updated in supplemental form 27(s).

Is the described reclamation complete? \_\_\_\_\_

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. \_\_\_\_\_

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/06/2021

Proposed site investigation commencement. 04/06/2021

Proposed completion of site investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/06/2021

Proposed date of completion of Remediation. \_\_\_\_\_

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**

Remediation Update/Request.

Laramie is requesting:

1. A reduced analyte suite on only Monitoring wells 1, 2, 6, 7, 8, 10, 11, 12, 13 to be only BTEX for quarterly sampling. Wells have not displayed impacts and/or have been below GW limits.

Monitoring wells 3, 4, 5, and 9 to remain under full 915 GW analyte list and will continue to be recovered on for remediation strategy.

I hereby certify all statements made in this form are to the best of my knowledge true, correct, and complete.

Signed: Matt KastenTitle: Environmental CoordinatorSubmit Date: 04/08/2024Email: mkasten@laramie-energy.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: Steven ArauzaDate: 04/09/2024Remediation Project Number: 17836**COA Type****Description**

0 COA	

**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**

403742584	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
403742588	ANALYTICAL RESULTS
403742589	ANALYTICAL RESULTS
403742592	SITE MAP
403747486	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 5 Files

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

Environmental	Comply with outstanding COAs.	04/09/2024
Environmental	Based on the information provided (doc #403742588), the Operator's request for a reduced analyte suite of BTEX-only for monitoring wells 1, 2, 6, 7, 8, 10, 11, 12, and 13 is conditionally approved.  Per Operator Comment, the Operator will continue to analyze monitoring wells 3, 4, 5, and 9 for the complete Table 915-1 analyte list.	04/09/2024

Total: 2 comment(s)