

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402641553

Receive Date:

03/29/2021

Report taken by:

Steven Arauza

## Site Investigation and Remediation Workplan (Initial 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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

### OPERATOR INFORMATION

Name of Operator: LARAMIE ENERGY LLC	Operator No: 10433	<b>Phone Numbers</b> Phone: (970) 9019007 Mobile: (970) 9019007
Address: 1401 17TH STREET SUITE #1400		
City: DENVER	State: CO Zip: 80202	
Contact Person: Matt Kasten	Email: mkasten@laramie-energy.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 17796

Initial Form 27 Document #: 402641553

#### PURPOSE INFORMATION

- |  |  |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination                                       | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water                   |
| <input type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure                             | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input checked="" type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation                 | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project                                  |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste                      | <input type="checkbox"/> Rule 906.c.: Director request   |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other _____   |

#### SITE INFORMATION

N Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: SPILL OR RELEASE	Facility ID: 440118	API #: _____	County Name: GARFIELD
Facility Name: SPILL/RELEASE POINT		Latitude: 39.466615	Longitude: -108.225749
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: NENW	Sec: 9	Twp: 7S	Range: 97W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications GM

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

intermittant drainage to north is predomianelty dry.

# 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	TBD -

## INITIAL ACTION SUMMARY

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

Initial: At approximately 7:00PM Wednesday, (November 19th, 2014) a produced/brine water release occurred when an Oxy contractor was priming frac trucks. One of the hoses was not connected to the pump manifold. When the hoses were opened from the missile to the pumps, approximately 30bbl of produced/brine water was spilled on the ground. Most of the liquid was immediately recovered, but approximately 5bbl was amongst the equipment and unrecoverable.

## 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 sampling is needed from initial results identifying exceedances in SAR and EC. From initial sampling points, vertical and horizontal samples will need to be collected. Additional sampling will include the most efficient way to include all of these points into one project and reduce the amount of samples needed for inorganics. Additional samples will be collected inside and outside of impacted area and at depths to 18 - 24" to determine if impacts are present. Due to only identifying SAR and EC, Laramie is requesting a reduced analyte suite that only include SAR and EC for all additional sampling.

### 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 ):

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 5

Number of soil samples exceeding 910-1 5

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 220

### NA / ND

--            Highest concentration of TPH (mg/kg) 55.86  
           9

--            Highest concentration of SAR 16

BTEX > 910-1 No

Vertical Extent > 910-1 (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           

Number of groundwater samples exceeding 910-1           

           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

           0 Number of surface water samples exceeding 910-1

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 will be collected during delineation of project.

☐ 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?

Delineation of salt impacts required from previous COA.

# REMEDIAL ACTION PLAN

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

If delineation of salt impacts is low in quantity, Laramie may remove source for landfill by heavy equipment. If salt impacts are not deemed economically feasible for removal, Laramie will request to leave in place and a reclamation plan will be supplied for the request.

## 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.

If source removal is best remediation approach, NFA will be obtained by fall 2021. If source removal is not feasible; Laramie will request to leave soil impacts in place and a reclamation plan will be drafted for closure of project by Fall 2021.

## Soil Remediation Summary

### ☐ In Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
\_\_\_\_\_ Chemical oxidation  
\_\_\_\_\_ Air sparge / Soil vapor extraction  
\_\_\_\_\_ Natural Attenuation  
\_\_\_\_\_ Other \_\_\_\_\_

### ☐ Ex Situ

\_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_  
\_\_\_\_\_ 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.

NA - if groundwater is encountered, 3rd party consultant will collect representative samples and COGCC will be notified.

## REMEDATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other TBD - after soil delineation

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Rem Progress Report

### 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:

## 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.

TBD - working surface of location to be delineated by soil sampling. If location must have a Reclamation plan for requested inorganics left in place, a Reclamation plan will be developed and submitted for approval. If inorganics are removed heavy machinery after delineation, working surface will be backfilled by import road base and contoured to pad grade level. Reclamation Planning section will be updated accordingly during phases of project change.

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 approve the seed mix? No

If NO, does the seed mix comply with local soil conservation district recommendations? No

## IMPLEMENTATION SCHEDULE

### PRIOR DATES

Date of Surface Owner notification/consultation, if required.

Actual Spill or Release date, if known.

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/29/2021

Date of commencement of Site Investigation. 03/29/2021

Date of completion of Site Investigation.

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 04/19/2021

Date of completion of Remediation.

### SITE RECLAMATION DATES

Date of commencement of Reclamation.

Date of completion of Reclamation.

**OPERATOR COMMENT**

Spill 440118: Laramie will request closure of release once Rem # is assigned and work will proceed under REM.

\*Laramie is requesting reduced analyte suite to only have SAR and EC for remaining inorganic delineation sampling. Background samples will be collected for Aresenic, SAR, and EC.

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

Signed: Matt Kasten

Title: Project Manager

Submit Date: 03/29/2021

Email: mkasten@laramie-energy.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: Steven Arauza

Date: 04/22/2021

Remediation Project Number: 17796

**Condition of Approval****COA Type****Description**

	Operator shall comply with Table 915-1 cleanup concentrations for site investigation and remediation per Rule 913.b.(2).
	Operator shall collect sample(s) from comparable, nearby non-impacted native soil for purposes of establishing background soil conditions including pH, electrical conductivity (EC) and sodium adsorption ratio (SAR), per Rule 915.e.(2).D.
2 COAs	

**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**

402641553	FORM 27-INITIAL-SUBMITTED
402641633	ANALYTICAL RESULTS
402641634	ANALYTICAL RESULTS
402641636	SOIL SAMPLE LOCATION MAP

Total Attach: 4 Files

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

Environmental	If the Operator wishes to proceed under Table 910-1 pursuant to Rule 915.f, the Operator shall submit a formal request via a Supplemental eForm 27. Site-specific background concentrations for SAR and EC as well as depths and potential pathways to groundwater need to be taken into consideration for any request to proceed under Table 910-1.  Note: Attached analytical results (doc #402641633) document SAR exceedances of Table 915-1 for all samples.	04/22/2021
Environmental	Based on the information provided, the Operator's request for a reduced analyte suite of EC and SAR only is conditionally approved. See COAs above.	04/22/2021

Total: 2 comment(s)