

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401915503

Receive Date:

01/29/2019

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: <u>LARAMIE ENERGY LLC</u>	Operator No: <u>10433</u>	Phone Numbers
Address: <u>1401 SEVENTEENTH STREET #1401</u>		Phone: <u>(970) 8125311</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>(970) 2106889</u>
Contact Person: <u>Lorne C Prescott</u>	Email: <u>lprescott@laramie-energy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 12614Initial Form 27 Document #: 401915503

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 checked="" 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 checked="" 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 checked="" type="checkbox"/> Other <u>Delin/remediation of an apparent legacy spill/contamination. Data from sampling minimal exceedances.</u> |

SITE INFORMATION

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

Facility Type: <u>SPILL OR RELEASE</u>	Facility ID: <u>457869</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>9-41 Legacy Spill</u>	Latitude: <u>39.379777</u>	Longitude: <u>-108.322205</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWNW</u>	Sec: <u>10</u>	Twp: <u>8s</u>	Range: <u>98W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications GWMost Sensitive Adjacent Land Use RanchingIs domestic water well within 1/4 mile? NoIs surface water within 1/4 mile? YesIs groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

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	15 by 30 feet	Examination of historical data, visual observ.

INITIAL ACTION SUMMARY

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

Dark soil/materials were discovered during clean up of a surface spill (Doc 401792289). Laramie suspected legacy contamination of sub surface soils on the well pad. Dialogue with COGCC, BLM and review of historcal records indicated a possible drill cuttings remediation site used by the previous operator. Follow up investigation and excavation has determined the extent of the contamination is considerably less that originally thought. Results of soils taken during excavation indicate low level exceedances for SAR, Arsenic and Barium.

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):

Soils removed from an area on the surface. Sampling of soils accompanied the excavation. See attached diagram for an estimate of the focus area. Rather than try to differentiate small contaminated portions of soil, all clean and potentially contaminated soil was collected during excavation, the bulk of the materials were taken to Greenleaf for disposal (approximately 6 truckloads, 60 cu/yds). Soils samples were collected during this process and sent to lab for analysis, see attached data for results.

Proposed Groundwater Sampling

☐ Will groundwater samples be collected as part of this investigation? (Number, analyses, and locations of samples):

No impacts to groundwater were anticipated or discovered.

Proposed Surface Water Sampling

☐ Will surface water samples be collected as part of this investigation? (Number, analyses, and locations of samples):

No impacts to groundwater were anticipated or discovered.

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 7

Number of soil samples exceeding 910-1 2

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

Approximate areal extent (square feet) 1625

NA / ND

-- Highest concentration of TPH (mg/kg) 134

-- Highest concentration of SAR 39.7

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 3

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 95

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

NA Highest concentration of Benzene (µg/l)

NA Highest concentration of Toluene (µg/l)

NA Highest concentration of Ethylbenzene (µg/l)

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 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?

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

Volume of solid waste (cubic yards) 60

Volume of liquid waste (barrels) 0

☐ Is further site investigation required?

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Soils were excavated using a backhoe. Location was monitored visually to determine the extent of possible contamination during excavation. No discerable odors during excavation.

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.

As the extent of contamination was determined (via excavation) potentially impacted material (soils) was hauled to a licensed disposal facility. Soil samples were collected and analyzed to confirm the extent of deliniation/contamination. Subsequent review of lab results determined the areas exposed during excavation are below table 910-1 criteria for everything except SAR, Arsenic and Barium .

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) _____ 60
Name of Licensed Disposal Facility or COGCC Facility ID # _____
No _____ 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.

N/A

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Remediation complete, request closure.

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

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:

None

Volume of E&P Waste (solid) in cubic yards 60

E&P waste (solid) description Partially contaminated soils.

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Greenleaf

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

E&P waste (liquid) description N/A

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.

Soils analysis indicates Table 910-1 exceedances for Arsenic, SAR. These issues will be dealt with according to the details in COGCC FAQ 31 and FAQ 32 at the time of final reclamation. The two (2) exceedances of Barium appear to be associated with sporadic distribution of drill cuttings material that was treated by the previous owner (Black Hills). Laramie will retest and re-examine Barium exceedances at the time of final reclamation of this locaiton. The excavated areas will be re-filled with clean soils. The facility is still in use.

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? Yes

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

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). _____ 01/07/2019

Date of commencement of Site Investigation. _____ 01/07/2019

Date of completion of Site Investigation. _____ 01/11/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____ 01/07/2019

Date of completion of Remediation. _____ 01/11/2019

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

The extent of potential and actual contamination at this location was considerably less than had been originally anticipated. The extent of contamination was completely delineated during the excavation process. Lab results demonstrate low level exceedances for SAR, Arsenic and Barium. Laramie is requesting closure based on lab results.

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

Signed: Lorne C Prescott

Title: Reg & Enviro Compliance

Submit Date: 01/29/2019

Email: lprescott@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: 02/22/2019

Remediation Project Number: 12614

COA Type**Description**

	Submit Supplemental eForm 19 to request closure of Spill/Release ID #457869. Supplemental report shall indicate that work is proceeding under an approved eForm 27 and shall reference the Remediation Project number assigned upon approval of this report.
	Operator shall submit updates for the following Remediation Projects via Supplemental eForm 27s for their respective Remediation Projects (these projects are located on the same pad): 1) Remediation Project #11986 2) Remediation Project #11988
	Operator shall submit a Supplemental eForm 27 for this remediation project that includes the following: 1) Laboratory reports for samples collected on 10/29/2018. 2) A site map illustrating the location of sample ID HDU 9-41 CONFIRM SS6 (collected 10/29/2018). 3) Arsenic background data to support relief under FAQ 31. 4) Additional information regarding barium exceedances.

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**

401915503	FORM 27-INITIAL-SUBMITTED
401915507	AERIAL IMAGE
401915521	AERIAL IMAGE
401915522	ANALYTICAL RESULTS
401915524	ANALYTICAL RESULTS

Total Attach: 5 Files

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

Environmental	The COGCC does not approve of the operator's request for closure, which is included in the Operator Comment section of this form. Additional information is required from the operator (see COAs above).	02/22/2019
Environmental	Updated associated facility ID to Spill #457869. Land treatment of drill cuttings by previous operator (referenced in the Reclamation Planning section of this report) is documented under Remediation Project #9639.	01/28/2019

Total: 2 comment(s)