

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401761372

Receive Date:

09/12/2018

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 #1400</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 #: 11909Initial Form 27 Document #: 401761372

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 checked="" 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 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: <u>PIT</u>	Facility ID: <u>291977</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>CC Pond 7 291977</u>	Latitude: <u>39.528460</u>	Longitude: <u>-108.237300</u>	
	** correct Lat/Long if needed: Latitude: <u>39.531376</u>	Longitude: <u>-108.235293</u>	
QtrQtr: <u>NENE</u>	Sec: <u>17</u>	Twp: <u>6S</u>	Range: <u>97W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications MLMost Sensitive Adjacent Land Use Non-crop RangelandIs 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

A natural drainage is 150' south of the location and flows into an intermittent drainage located ~950' to the southwest. The un-named drainage connects with Conn Creek ~5545' to the south.

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
No	SOILS	None	Soils sampling

INITIAL ACTION SUMMARY

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

This document is intended to accomodate closure of Pond 7, Pit number 291977. This pit has been used exclusively for storage of fresh water since Laramie Energy took ownership of the location. Available records indicate the location was used for fresh water storage prior to Laramie's ownership.

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 was sampled at 8 discrete locations after the liner was removed. The material (sediment) accumulation on the liner was also sampled in order to prepare for disposal of the liner at a licensed facility. See the attached data for additional details.

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):

Samples were taken from the sediment that had accumulated on the liner prior to removal and disposal of the liner.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 8

Number of soil samples exceeding 910-1 8

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

Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 110

-- Highest concentration of SAR 5.82

BTEX > 910-1 No

Vertical Extent > 910-1 (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) 500'

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)

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 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?

From other nearby locations, see the attached analytical summary.

☐ 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?

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

No sources were identified, thus no sources were removed other than the liner.

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.

The only exceedences detected from soil samples were for arsenic and PH. Arsenic levels are typically high in this region. The entire facility was backfilled to a depth of 3 feet or more.

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

☐ _____ 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.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other _____

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? _____

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.

After sampling and analysis of the liner sediment, the liner was removed and disposed of at a licensed facility. Soil samples were collected after liner removal and analyzed according to Table 910-1 criteria. The only exceedences were associated with Arsenic (which is typically high in the soils of this region) and PH at the SE Bottom (9.47). Clean soil was salvaged from around the facility and used to fill in the pit. Final contour closely matched the (immediate) surrounding area. Reclamation of the location is complete.

Is the described reclamation complete? Yes

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). 07/01/2018

Date of commencement of Site Investigation. 07/01/2018

Date of completion of Site Investigation. 08/15/2018

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. 07/16/2018

Date of completion of Reclamation. 08/15/2018

OPERATOR COMMENT

This submittal is intended to accomodate closure and reclamation of the Pond 7 facility.

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: 09/12/2018

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: 10/10/2018

Remediation Project Number: 11909

COA Type**Description**

	Operator shall conduct final reclamation of pit in accordance with Rule 1004.
	Submit eForm 27 Supplemental Report to request closure based on confirmation sample results.

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**

401761372	FORM 27-INITIAL-SUBMITTED
401761488	ANALYTICAL RESULTS
401761489	ANALYTICAL RESULTS
401761490	AERIAL IMAGE
401761492	ANALYTICAL RESULTS

Total Attach: 5 Files

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

Environmental	Implementation schedule indicates that pit closure was conducted from 7/1/2018 to 8/15/2018. Initial Form 27 was created and submitted on 9/12/2018.	10/10/2018
Environmental	Provided correct Lat./Long. based on aerial photos and operator's attached soil sampling diagram (doc #401761490). Updated USCS classification based on NRCS Web Soil Survey data.	09/28/2018

Total: 2 comment(s)