

State of Colorado Oil and Gas Conservation Commission

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Document Number:

401777422

Receive Date:

09/27/2018

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: LARAMIE ENERGY LLC	Operator No: 10433	Phone Numbers
Address: 1401 SEVENTEENTH STREET #1400		Phone: (970) 8125311
City: DENVER State: CO Zip: 80202		Mobile: (970) 2106889
Contact Person: Lorne C Prescott	Email: lprescott@laramie-energy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11939

Initial Form 27 Document #: _____

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: CENTRALIZED EP WASTE MGMT FAC	Facility ID: 441238	API #: _____	County Name: MESA
Facility Name: HARRISON CR WTR TRMENT FAC IMPOUND 441238	Latitude: 39.268140	Longitude: -107.751830	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNE	Sec: 22	Twp: 9S	Range: 93W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Ranching

Is domestic water well within 1/4 mile? Yes

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

None

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	GROUNDWATER	N/A	N/A

INITIAL ACTION SUMMARY

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

Pond 2, HCWTF was found to be leaking and reported via Form 19, doc num 401765168. No evidence of fluids escaping from the secondary liner system. Monitoring wells near the location indicated no sign of contamination. Fluid flows to the Pond were ceased and the Pond was drawn down to the point where fluids were no longer accumulating in the leak detection sump. Three (3) potential leak locations were identified, those locations were repaired on September 27, 2018.

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):

Proposed Groundwater Sampling

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

If groundwater is available in the Monitoring Wells, it will be sampled and compared to the criteria levels in the Pond water.

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 0
Number of soil samples exceeding 910-1
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 > 910-1
 Vertical Extent > 910-1 (in feet)

Groundwater

Number of groundwater samples collected 1
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet) 60'
Number of groundwater monitoring wells installed 2
Number of groundwater samples exceeding 910-1 0

ND Highest concentration of Benzene (µg/l)
ND Highest concentration of Toluene (µg/l)
ND Highest concentration of Ethylbenzene (µg/l)
ND Highest concentration of Xylene (µg/l)
ND 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) Volume of liquid waste (barrels)

☐ Is further site investigation required?

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.

Since no fluids are currently accumulating in the leak detection sump, no additional produced water will be removed from Pond 2.

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.

Since the date of the initial Form 19 submittal, Laramie consultants have identified 3 locations that compromise the primary Pond 2 liner. An investigation of those locations determined the secondary liner had not been compromised. The three locations were repaired on september 27. On September 28 Laramie will begin refilling Pond 2 with produced water in an effort to assess the integrity of the liner repairs. Fluid will be introduced to the Pond incrementally to the level(s) of the repair and then the inflow will be stopped to allow for a 72 hour hydrostatic integrity test. During that interval the LD sump will be monitored for accumulations of fluids.

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
☐ 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? 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.

This location will not be reclaimed until it is at the end of the Project Lifecycle.

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 approve the seed mix? _____

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

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, if known. 08/11/2018

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/12/2018

Date of commencement of Site Investigation. 08/12/2018

Date of completion of Site Investigation. 09/27/2018

REMEDIAL ACTION DATES

Date of commencement of Remediation. 09/27/2018

Date of completion of Remediation. 10/01/2018

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Refilling and assessment of the integrity of liner repairs will commence on September 28 at 8:00 am.
 As the fluid is (re)introduced to the Pond the LD sump will be monitored for accumulation of fluids. At the point that the fluids cover the repair, the initial 72 hour hydrostatic test interval will begin.

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: 09/27/2018

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: 10/17/2018

Remediation Project Number: 11939

COA Type**Description**

	Comply with monitoring well sampling COAs listed on Form 28, doc #2533901.
	Operator refers to three (3) leak locations in primary liner, but attached aerial photo (doc #401777455) shows five (5) leak locations. Submit eForm 27 that addresses all five (5) leak locations depicted on attached aerial photograph. Attach documentation of leak repairs and hydrostatic test results.
	Per condition of approval for Supplemental Spill Report (doc #401765168), Operator shall demonstrate the integrity of both the primary liner secondary liner prior to putting the Pit Facility into service.
	The COGCC does not concur with operator's assessment that threatened impacts to groundwater have been adequately delineated by monitoring well data for MW1 and MW3. Monitor well data for MW1 corresponds to a well located ~1,120' north of pit. Data for MW3 corresponds to a well located ~460' SW of pit. Neither monitoring well is located directly downgradient of the subject pit. Additional site-specific groundwater monitoring is required. Operator shall submit a Supplemental eForm 27 to assess direction of flow, groundwater gradient, and water quality at the subject location. This assessment will require the installation of additional monitoring wells upgradient and downgradient of the subject pit, pursuant to Rule 908.b.(9).B.ii, Rule 909.a, Rule 909.b.(2), and Rule 910.b.(4).

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**

401777422	INVESTIGATION/REMEDATION WORKPLAN (INITIAL)
401777455	PHOTOS
401777456	ANALYTICAL RESULTS
401777457	ANALYTICAL RESULTS
401799239	FORM 27-INIAL-SUBMITTED

Total Attach: 5 Files

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

Environmental	Attached aerial photo (doc #401777455) depicts leak locations in primary liner. Attached Analytical Results for leak detection system (doc #401777456) and monitoring wells (MW1, MW3, doc #401777457).	10/16/2018
Environmental	Operator indicates that groundwater is at 60'. Operator has monitoring wells within 1/4-mile of pit. Harrison Creek located 1,025' NE of pit.	10/16/2018

Total: 2 comment(s)