FORM 27 Rev 3/16

State of Colorado
Oil and Gas Conservation Commission

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Document Number: 402681435
Receive Date:
Report taken by:

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 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 INFORMATON

Name of Operator: LARAMIE ENERGY LLC Operator No: 10433
Address: 1401 17TH STREET SUITE #1400
City: DENVER State: CO Zip: 80202
Contact Person: Matt Kasten Email: mkasten@laramie-energy.com

Phone Numbers
Phone: (970) 9019007
Mobile: (970) 9019007

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 4622 Initial Form 27 Document #: 200220428

PURPOSE INFORMATION

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

SITE INFORMATION

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

Facility Type: LOCATION Facility ID: 323903 API #: County Name: GARFIELD
Facility Name: CC 0605-01 Pad Latitude: 39.555766 Longitude: -108.247731
** correct Lat/Long if needed: Latitude: Longitude:
QtrQtr: SENW Sec: 5 Twp: 6S Range: 97W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications GC
Most Sensitive Adjacent Land Use RANGELAND
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? Yes

Other Potential Receptors within 1/4 mile

2 springs approx 210 feet from pad, which discharge into unnamed tributary of Crystal Creek

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- ☐ **E&P Waste**
  - ☐ Produced Water
  - ☐ Oil
  - ☐ Condensate
  - ☐ Drilling Fluids
  - ☐ Drill Cuttings
- ☒ **Other E&P Waste**
  - ☐ Workover Fluids
  - ☐ Tank Bottoms
  - ☐ Pigging Waste
  - ☐ Rig Wash
  - ☐ Spent Filters
  - ☒ Pit Bottoms
  - ☐ Other (as described by EPA) _____
- ☐ **Non-E&P Waste** _____

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	GROUNDWATER	2 springs	visual and water samples
Yes	SURFACE WATER	springs discharge into unnamed trib	visual and water samples

INITIAL ACTION SUMMARY

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

Installed Hesco containment berms around both springs and followed up with a dam downstream of the springs. Clean upstream water was bypassed around the affected area by flowing through a 6" poly pipe. Tracer dye was placed into the 605-1 production pit, confirming both leaks in pit liner and seepage of liquids from lined pit into shallow groundwater flow discharging into both springs. all contained water is being pumped to a frac tank and further trucked into Mesa water management storage ponds. installed both series of absorbent booms and straw bales to contain and capture any hydrocarbon liquids. Currently conducting daily suction of any floating hydrocarbon liquids at boom/straw bale locations as required. See workplan for additional info

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):

quarterly sampling at established wells

Proposed Surface Water Sampling

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

quarterly sampling at established surface sampling points

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 exceeeding 910-1: 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 > 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): 20`

Number of groundwater monitoring wells installed: 9

Number of groundwater samples exceeding 910-1: 1

-- Highest concentration of Benzene (µg/l): 83

-- Highest concentration of Toluene (µg/l): 1.86

-- Highest concentration of Ethylbenzene (µg/l): 24.5

-- Highest concentration of Xylene (µg/l): 180

NA Highest concentration of Methane (mg/l):

Surface Water

3 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?

Laramie will continue quarterly water monitoring

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.

Source removal was not part of this quarterly update for q! 2021

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.

Q1 2021 quarterly water sampling update. Quarterly water sampling from springs and wells will continue and SVE will be active at later summer months.

Soil Remediation Summary

In Situ

- Bioremediation (or enhanced bioremediation)
- Chemical oxidation
- Yes — Air sparge / Soil vapor extraction
- Yes — 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
- 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.

Groundwater monitoring will continue at established wells for site.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: [X] Quarterly [ ] Semi-Annually [ ] Annually [ ] Other _____

Report Type: [X] 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: _____

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

Do all soils meet Table 910-1 standards? _____

Does the previous reply indicate consideration of background concentrations? _____

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? _____

Is additional groundwater monitoring to be conducted? _____

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.

interim reclamation will include implementation of stormwater bmps as ouotlined in our noav response dated july 18, 2008. final reclamation will involve removing the earthern berms and returning the tibutary channel to pre-remediation contours. disturbed excavation areas will be reseeded to provide slope stabilization. reseeding will be completed in accordance with oxsy's stormwater management plan and noxious weed management plan.

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.

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date).

Date of commencement of Site Investigation. 06/17/2008

Date of completion of Site Investigation.

REMEDIAL ACTION DATES

Date of commencement of Remediation. 06/19/2008

Date of completion of Remediation.

SITE RECLAMATION DATES

Date of commencement of Reclamation.

Date of completion of Reclamation.

OPERATOR COMMENT

Intial form 27 submitted with all data DOC: 402648138
Q1 2021 update

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:`

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:

Date:

Remediation Project Number: 4622

COA Type	Description

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
402681461	ANALYTICAL RESULTS
402681463	ANALYTICAL RESULTS
402681465	SITE MAP

Total Attach: 3 Files

General Comments

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)