

State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203
Phone: (303) 894-2100 Fax: (303) 894-2109



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Report taken by:

Steven Arauza

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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

| | | |
|--|--|------------------------------|
| Name of Operator: <u>LARAMIE ENERGY LLC</u> | Operator No: <u>10433</u> | Phone Numbers |
| Address: <u>1700 LINCOLN ST STE 3950</u> | | Phone: <u>(970) 9019007</u> |
| City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80203</u> | | Mobile: <u>(970) 9019007</u> |
| Contact Person: <u>Matt Kasten</u> | Email: <u>mkasten@laramie-energy.com</u> | |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 14690 Initial Form 27 Document #: 402246241

PURPOSE INFORMATION

- ☐ Rule 913.c.(1): Pit or Cuttings Trench closure.
- ☐ Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- ☒ Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- ☐ Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- ☐ Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- ☐ Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- ☐ Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- ☐ Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- ☐ Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- ☐ Rule 913.g: Changes of Operator.
- ☐ Rule 915.b: Request to leave elevated inorganics in situ.
- ☒ Other: Deliniate, excavate impacted soils, remove gravel from tank battery, inspect liner for compromise

SITE INFORMATION

No Multiple Facilities

| | | | |
|--|----------------------------|-------------------------------|---|
| Facility Type: <u>SPILL OR RELEASE</u> | Facility ID: <u>469032</u> | API #: <u></u> | County Name: <u>MESA</u> |
| Facility Name: <u>Alkali Creek Compression Station</u> | Latitude: <u>39.357588</u> | Longitude: <u>-107.644467</u> | |
| ** correct Lat/Long if needed: Latitude: <u></u> | | Longitude: <u></u> | |
| QtrQtr: <u>SESE</u> | Sec: <u>15</u> | Twp: <u>8S</u> | Range: <u>92W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

SITE CONDITIONS

General soil type - USCS Classifications GC 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? Yes

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 |
|--------------|----------------|------------------------------------|---|
| UNDETERMINED | SOILS | Area beneath secondary containment | Liner will be removed, collect soil samples |

INITIAL ACTION SUMMARY

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

After fluid was discovered inside containment 130 bbls of fluid was pumped out and disposed of. Recovered fluid was a mixture of produced water release and frozen precip. A saturated area outside the containment was noted and dug out, approx 1.5ft x 1.5ft. The liner was pulled back from the steel containment ring and frozen fluid was discovered. The frozen materials were removed along with soils (using a Supersucker/pressure washer). Samples were collected from soils to confirm delineation and compliance with Table 910-1. After this effort was completed, Laramie removed the remaining gravel from the remaining lined containment and discovered additional compromises (holes). To fully examine the area for potential impacts from fluids, Laramie will remove all the tanks and the remaining secondary containment. Delineation, excavation and sampling according to Table 910-1 was conducted subsequent to the spill remediation.

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):

pH exceedance from initial sampling (SS5 @ 9.36) will be resampled for pH.

Sampling and analysis of the area impacted by the spill/release has been completed. No exceedances for TPH, BTEX, SAR. After the tanks and liner are removed, the soils beneath the liner will be examined for staining/impacts and samples will be collected to confirm no additional impacts.

Proposed Groundwater Sampling

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

No groundwater is present or impacted as a result of the release, gw depth is estimated at 30 feet or more according to the BLM hydrologist. Laramie is coordinating with the landowner (BLM) for the installation of a monitoring well (MW) near this location. Final approval and installation of the MW is anticipated for Spring 2020. Soil boring and ground water data will be provided to the COGCC at that time.

Proposed Surface Water Sampling

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

There is no evidence of impacts to surface waters (Alkali Creek), fluids have been contained within the secondary containment and Laramie's current assessment is minimal impacts to soils. Confirmed via the attached lab data for impacted soils.

Additional Investigative Actions

☐ Additional alternative investigative actions described in attached Site Investigation Plan (summary):

Installation of a monitoring well, Spring 2020.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 12

Number of soil samples exceeding 915-1 0

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

Approximate areal extent (square feet) 120

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 30

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 915-1 0

Surface Water

0 Number of surface water samples collected

0 Number of surface water samples exceeding 915-1

If surface water is impacted, other agency notification may be required.

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 10

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 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)

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) 2

Volume of liquid waste (barrels) 2

☒ Is further site investigation required?

After the tanks and liner are removed, the soils beneath the liner will be examined for staining/impacts and samples will be collected to determine if any as yet undiscovered impacts exist.

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.

Soils will be examined for staining/odor. Material will be excavated using heavy equipment, vac trucks and shovels. Materials determined to have been impacted and potentially exceeding Table 910-1 hauled to a disposal facility (Greenleaf).

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.

No impacts to groundwater have been identified or are anticipated at this time. Impacted soils were removed and hauled away for disposal. Soils will be replaced with clean fill prior to the regrading the location. Determination of the horizontal and vertical extent of contamination was performed using field screening devices and olfactory assessment.

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)
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.

MW planned installation, Spring 2020.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

☐ Quarterly☐ Semi-Annually☐ Annually☒ Other Final

☐ Request Alternative Reporting Schedule:

☐ Semi-Annually☐ Annually☐ Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

Report Type:

☐ Groundwater Monitoring☐ Land Treatment Progress Report☐ O&M Report☒ Other Soils assessment

Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Operator anticipates the remaining cost for this project to be: \$ _____

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 10

E&P waste (solid) description Soils combined with water used to melt ice, hauled away via vac truck.

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Greenleaf

Volume of E&P Waste (liquid) in barrels 3

E&P waste (liquid) description Soils combined with water used to melt ice, hauled away via vac truck.

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Greenleaf

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

If YES:

☒ Compliant with Rule 913.h.(1).

☒ Compliant with Rule 913.h.(2).

☐ Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Does Groundwater meet Table 915-1 standards? Yes

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the COGCC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

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 continue to be used for storage and transport of fluids via tanks within secondary containment.

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 provide the seed mix? Yes

If YES, does the seed mix comply with local soil conservation district recommendations? Yes

Did the local soil conservation district provide the seed mix? _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. _____

Proposed date of completion of Reclamation. _____

IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

PRIOR DATES

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

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 11/01/2019

Proposed site investigation commencement. 11/01/2019

Proposed completion of site investigation. 11/30/2019

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

Proposed date of completion of Remediation. _____

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

☐ Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

OPERATOR COMMENT

Alkali Creek Compressor Historic Lower Tank removal (Inorganic (SAR) re-samples)

Laramie is requesting:

1. Project to remain under RSSL; groundwater well at site is dry and is drilled to 50' bgs.
2. Consideration of 913.e.2.c; operator knowledge report attached for exceeding inorganics.
3. Consideration of footnotes 1 and 11, arsenic values identified above source area.
4. Closure of REM 14690.

Laramie will request to P&A well at site after approval/nfa; due to being dry during duration of projects. (2+ years)

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: 09/20/2022

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: 10/19/2022

Remediation Project Number: 14690

COA Type**Description**

| | |
|--|---|
| | Based on review of information presented it appears that no further action is necessary at this time, and COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if surface and/or ground water is found to be impacted, then further investigation and/or remediation activities will be required at the site. In addition, the non-working surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules including the establishment of vegetative cover on non-cropland and successful growth on cropland. Landowner must approve reclamation of cropland. |
|--|---|

1 COA

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**

| | |
|-----------|--------------------------------|
| 403171316 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 403171717 | OTHER |
| 403171718 | SOIL SAMPLE LOCATION MAP |
| 403171720 | ANALYTICAL RESULTS |
| 403171721 | ANALYTICAL RESULTS |
| 403171722 | ANALYTICAL RESULTS |
| 403171723 | ANALYTICAL RESULTS |
| 403171789 | SOIL SAMPLE LOCATION MAP |

Total Attach: 8 Files

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

| | | |
|--|--|---------------------|
| | | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)