

State of Colorado Oil and Gas Conservation Commission

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Document Number:

402214908

Receive Date:

10/29/2019

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 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) 812-5310</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>(970) 985-5383</u>
Contact Person: <u>Wayne P Bankert</u>	Email: <u>wbankert@laramie-energy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 14368 Initial Form 27 Document #: 402200719

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: <u>SPILL OR RELEASE</u>	Facility ID: <u>468517</u>	API #: _____	County Name: <u>MESA</u>
Facility Name: <u>Kobe-Chevron Valve Can</u>	Latitude: <u>39.366278</u>	Longitude: <u>-108.258312</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NENE</u>	Sec: <u>18</u>	Twp: <u>8s</u>	Range: <u>97w</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

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

Reservoir Irrigation Ditch, Roan Creek is 950 to the North east but was not impacted by this release. the Colorado River is 5 miles downstream and was not believed to be impacted by this release.
October 29, 2019: Analysis results of water samples from surface waters, including ditch, Roan Creek and Colorado River show Non-Detect (ND) for TPH and BTEX. Analysis of water samples collected from the source of the fluids (Debeque Water Handling Facility Pond) were ND for BTEX and well below 910-1 for TPH. Analysis of soil samples collected at the Point of Release (POR) and along the path of release were below table 910-1 criteria levels for TPH and BTEX. Arsenic exceedences approximated background levels. SAR background was as high as 25.

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	1,200 feet	Visual and via sampling
No	SURFACE WATER	None	Visual and 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.

Fluids filled the valve can and migrated across the surface, down the CR 200 roadway, across additional surface and discharged into a flowing irrigation channel. The produced water flow was turned off as soon as it was discovered. Spill trailers were brought to the site and brought to bear within 20 minutes of discovery. Pumper/vac truck were also onsite to collect fluids. Sample was conducted along the path of the spill, both soils and water. Since the liquids were released to waters of the US we have also reported this to the Environmental Release Hotline. Roan Creek is approximately 200 feet from the point where the fluids entered the irrigation ditch. None of the fluids are believed to have entered Roan Creek or the Colorado River, but the irrigation ditch flows for a considerable distance in the direction of the Colorado River. Laramie staff was notified of fluid release at approximately 7:50 AM, October 1, 2019 from a private landowner. Laramie shut off the fluid flow by 8:00 am and notified contractors (D&B) to report to the site immediately. Spill trailers and Laramie staff were at the location at 8:15, absorbant socks and tube booms were applied to control residual flows. Fluid removal via vac trucks began at 8:45. Fluid from the spill migrated to the nearby Reservoir Irrigation Ditch. Laramie attempted to stop the flow completely but the headgate malfunctioned and flow through the ditch was reduced 50%. Sampling of soils and water began at 10:40 am when third party consultant arrived. Sampling of water was conducted from the point of entry to the irrigation ditch to the Colorado River (more than 5 miles downstream). Nearby Roan Creek was sampled as well. See diagrams attached to this submittal. Sampling efforts continued daily to date (October 4, 2019). Delineation of the spill and removal of impacted soils is ongoing as of the date of this report. Downstream ditchholders and water users were notified, see attached list.

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):

As of October 29, 2019: Sampling has been conducted at various locations along the spill path and in the irrigation ditch. A sampling map is attached to this report. Analysis was conducted according to Table 910-1 criteria.

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):

As of October 29, 2019: Sampling has been conducted at various locations along the spill path and in the irrigation ditch. A sampling map is attached to this report. Analysis was conducted according to Rule 609.e.2 and 3 excepting gases and bacteria.

Additional Investigative Actions

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

Sampling of surface water was conducted for two days following the initial release.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 14

Number of soil samples exceeding 910-1 10

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

Approximate areal extent (square feet) 150

NA / ND

-- Highest concentration of TPH (mg/kg) 388

-- Highest concentration of SAR 54.2

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) \

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 910-1

Highest concentration of Benzene (µg/l)

Highest concentration of Toluene (µg/l)

Highest concentration of Ethylbenzene (µg/l)

Highest concentration of Xylene (µg/l)

Highest concentration of Methane (mg/l)

Surface Water

15 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?

Soil samples were collected to determine background levels of Arsenic, SAR and EC. Water samples were collected from upstream locations of the receiving water body (irrigation ditch). Water samples were collected from the source of the spill : Debeque Water Handling Facility Pond.

☐ 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?

As a result of the analytical data, Laramie has determined that there are no significant impacts to soils or water exposed to the spill fluids from the valve can. Since then, the surface owner has requested Laramie perform no additional excavation of soils in the path of the spill. Laramie intends to monitor the vegetation in the area of the spill for at least one year. If vegetative die-offs occur, Laramie will consult with the landowner and assess the viability of soil removal. As of October 29, 2019 Laramie believes no additional soil remediation will be required. See attached data for additional details.

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.

Excavation and scraping of impacted soils was performed in areas immediately accessible, materials were transported to a licensed disposal facility. October 29, 2019: As of this date, 12 cu/yds of soil were removed from the path of the spill. Areas around the valve can, along the roadway, in the ditch (es) and various other soil surfaces were excavated until clean soil was encountered. Soil accumulations in the cattle guard crossing the road were removed as well. All materials were hauled to Greenleaf for disposal.

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.

Impacted soils will be scraped and excavated as necessary beginning on October 5. Laramie's initial assessment has determined compacted soils were impacted by contaminants to depths of 1/2 to 1 inch. Sediment accumulations, more porous in nature appear to have been impacted to depths ranging from 8 to 12 inches. Flows from the release impacted soils along the roadway and across a series of natural drainages ranging in depth from a few inches to 3-4 feet. Each of the impacted drainages will be sampled and examined for impacts, soils will be removed and replaced according to impacts and per instructions of the landowner.

October 29, 2019: As of this date, 12 cu/yds of soil were removed from the path of the spill. Areas around the valve can, along the roadway, in the ditch (es) and various other soil surfaces were excavated until clean soil was encountered. Soil accumulations in the cattle guard crossing the road were removed as well. All materials were hauled to Greenleaf for disposal. Sampling of soils, source fluids, accumulated fluids and surface water were analyzed. Results have demonstrated ND and/or minimal levels of COGCC criteria levels. Confirmation sample results for locations POR, S1 and S2 demonstrated ND and/or below 910-1 criteria for TPH and BTEX. Soils collected in the natural drainages feeding into the irrigation ditch were analyzed and were below Table 910-1 for TPH and BTEX.

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) _____ 50

_____ 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.

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Follow-up to previous Form 27
submittal

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

☒ Other Spill impacts to soils and surface waters.

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 12

E&P waste (solid) description soil

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

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

REMEDATION COMPLETION REPORT

REMEDATION 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.

Reclamation will be dependant upon the amount of remediation required and at the direction of the landowner.

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? No

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

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). 10/01/2019

Date of commencement of Site Investigation. 10/01/2019

Date of completion of Site Investigation. 10/14/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. 10/01/2019

Date of completion of Remediation. 10/29/2019

SITE RECLAMATION DATES

Date of commencement of Reclamation. 10/14/2019

Date of completion of Reclamation. 10/21/2019

OPERATOR COMMENT

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

Signed: ` Wayne P Bankert

Title: Reg & Env. Manager

Submit Date: ` 10/29/2019

Email: wbankert@laramei-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: 14368

COA Type**Description**

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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**

402214909	ANALYTICAL RESULTS
402214910	ANALYTICAL RESULTS
402214913	ANALYTICAL RESULTS
402214914	ANALYTICAL RESULTS
402214915	ANALYTICAL RESULTS
402214916	ANALYTICAL RESULTS
402214917	ANALYTICAL RESULTS
402214918	ANALYTICAL RESULTS
402214919	ANALYTICAL RESULTS
402214920	ANALYTICAL RESULTS
402214921	ANALYTICAL RESULTS
402214922	ANALYTICAL RESULTS
402214924	CORRESPONDENCE
402216993	ANALYTICAL RESULTS
402217002	ANALYTICAL RESULTS
402225590	ANALYTICAL RESULTS

Total Attach: 16 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)