

State of Colorado
Oil and Gas Conservation Commission

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402349922
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06/17/2020
Report taken by:
ALEX FISCHER

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) 263-3641</u>
City: <u>DENVER</u> State: <u>CO</u> Zip: <u>80202</u>		Mobile: <u>()</u>
Contact Person: <u>Joan Proulx</u>	Email: <u>jproux@laramie-energy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION
Remediation Project #: 11909 Initial 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 ML Most Sensitive Adjacent Land Use Non-crop Rangeland

Is domestic water well within 1/4 mile? No 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

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:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> 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 accommodate 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 9.78

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?

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.

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

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.

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? 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? Yes

Do all soils meet Table 910-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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? Yes

Is additional groundwater monitoring to be conducted? No

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

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

Signed: Joan Proulx

Title: Regulatory Analyst

Submit Date: 06/17/2020

Email: jproulx@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: ALEX FISCHER

Date: 06/23/2020

Remediation Project Number: 11909

COA Type

Description

	<p>The COGCC concurs that arsenic levels at Pond #7 Facility ID 291977 are at or below the background arsenic concentrations and similar to background arsenic at the 609-14 Location ID 336005 and is taking into consideration the background concentration of arsenic in the native soils and is providing relief for the arsenic exceedances per FAQ 1.</p> <p>Should conditions at the site indicate contaminant concentrations in soils exceeding OGCC standards, or, if groundwater is found to be significantly impacted, further investigation and/or remediation activities may be required at the site. It appears that no further action is necessary at this time and COGCC approves the closure request.</p>
	<p>Under the "Site Investigation Report" tab, Initial F27 Doc# 401761372 under "Other Investigation Information" the box is checked for "Were background samples collected as part of this site investigation?" with the following statement: "From other nearby locations, see the attached analytical summary."</p> <p>The attached analytical summary (Doc# 401761489) did not include a background summary. The operator shall provide the analytical data supporting this and a map showing where the background arsenic samples were collected. Additionally, the operator shall review FAQ 31 for applicability for arsenic.</p>

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

402349922	FORM 27-SUPPLEMENTAL-SUBMITTED
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402424224	OTHER
402424225	MAP
402424226	OTHER
402424227	ANALYTICAL RESULTS
402424228	ANALYTICAL RESULTS

Total Attach: 6 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Afischer reviewed for SArauza. Pushed to Draft for background arsenic data.	04/21/2020
Environmental	<p>Under the "Site Investigation Plan" and "Initial Action Plan" it is stated: "This documentation is intended to accommodate the closure of Pond 7, Pit number 2919177. 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." Although the above made be true, the records in the COGCC database indicate the following below.</p> <p>Pit was permitted 8/20/2007 as a lined production pit and method of treatment of fluids prior to entering the pit was via separator.</p> <p>March 12, 2013 Pit Report submitted stating the following: Pit Use: "Produced Water Storage"; "Multi-Well Pit." Method of treatment prior to discharge into pit: "3 phase sep & gravity sep." "This multi-well production pit is used for storage of fresh water for drilling and completions operations usage. Note that the actual pit construction date is unknown and is therefore estimated." Other Information: "This pit is utilized for storage of fresh water; fluid level is visually monitored by production techs at least weekly, and the fluid level is also remotely monitored using an electronic fluid level monitor system that provides the data daily to the production techs through ICONICS. Ignage is in place stating that the pit shall be used for fresh water only."</p>	04/21/2020

Total: 2 comment(s)