

State of Colorado
Oil and Gas Conservation Commission

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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.

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 17TH STREET SUITE #1400</u>		
City: <u>DENVER</u>	State: <u>CO</u>	Zip: <u>80202</u>
Contact Person: <u>Matt Kasten</u>	Email: <u>mkasten@laramie-energy.com</u>	
		Phone: <u>(970) 9019007</u>
		Mobile: <u>(970) 9019007</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION
Remediation Project #: 5435 Initial Form 27 Document #: 2523337

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 type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation	<input checked="" 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>291976</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>CC POND 8/609-14</u>	Latitude: <u>39.531280</u>	Longitude: <u>-108.232400</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSW</u>	Sec: <u>9</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 GC Most Sensitive Adjacent Land Use NON CROP LAND

Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

NEAREST WATER WELL ~7340' NW, INTERMITTENT UNNAMED DRAINAGE ~1070' S, NATURAL DRAINAGE ~800' S.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|---|--|---|
| <input type="checkbox"/> E&P Waste | <input checked="" type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input 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 checked="" type="checkbox"/> Other (as described by EPA) Pit sampling below liner | |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
No	GROUNDWATER	N/A	VISUAL INSPECTION BELOW PIT L INER
No	SOILS	N/A	LAB ANALYTICAL RESULTS
No	SURFACE WATER	N/A	VISUAL
No	VEGETATION	N/A	VISUAL

INITIAL ACTION SUMMARY

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

OXY PERMITTED THIS PIT AS A PRODUCTION PIT IN AUGUST OF 2007. OXY CLOSED THIS PIT IN 2008 AND IS PROVIDING THIS PIT CLOSURE FORM/PLAN FOR COGCC REVIEW/APPROVAL.

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):

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 1

Number of soil samples exceeding 910-1 1

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

Approximate areal extent (square feet) 10000

NA / ND

-- Highest concentration of TPH (mg/kg) 46

-- Highest concentration of SAR 8.3

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 15

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

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.

OXY REMOVED LIQUIDS FOUND INSIDE THE PRODUCTION PIT; NO SOLIDS WERE ENCOUNTERED. LIQUIDS REMOVED FROM THE PRODUCTION PIT WERE REDISTRIBUTED INTO OXY'S WATER SYSTEM FOR REUSE. OXY DISPOSED OF THE PIT LINER AT THE GARFIELD COUNTY LANDFILL. BASED ON THE SAMPLING RESULTS OF THE PIT BOTTOM, ALL ANALYTES ARE FOUND TO BE BELOW ALLOWABLE CONCENTRATION LEVELS EXCEPT FOR ARSENIC. ALTHOUGH THE ARSENIC CONCENTRATION IS ABOVE THE COGCC REGULATED CONCENTRATION, OXY BELIEVES THIS TO BE NATIVE CONCENTRATIONS FOUND IN THE SOIL.

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.

Remediation work completed 2008.

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.

NO GROUNDWATER WAS IMPACTED BY THE PIT. THE PIT WAS LINED WITH A 60-MIL HDPE LINER. THIS PIT WAS USED AS A PRODUCTION PIT AND NO SOLIDS WERE ENCOUNTERED IN THE PIT DURING CLOSURE ACTIVITIES. DURING EXCAVATION OF THE PRODUCTION PIT LINER, AN OXY CONTRACTOR WAS PRESENT TO OBSERVE THE SOIL BELOW THE LINER. NO EVIDENCE OF STAINING OR LINER COMPROMISE WAS IDENTIFIED DURING THE REMOVAL OF THE LINER. THE OXY CONTRACTOR COLLECTED SOIL SAMPLES FROM BELOW THE PIT LINER TO ENSURE ENVIRONMENTAL IMPACTS WERE NOT PRESENT. LAB ANALYTICAL RESULTS ARE INCLUDED WHICH IDENTIFY THE APPROXIMATE SAMPLING LOCATION WITHIN THE PIT AT DEPTH AND COMPLIANCE WITH THE COGCC OLD TABLE 910-1 ALLOWABLE CONCENTRATIONS, EXCEPT FOR ARSENIC. OXY BELIEVES THE ARSENIC CONCENTRATION IDENTIFIED IS DUE TO ELEVATED CONCENTRATIONS OF ARSENIC TO BE PRESENT IN NATIVE SOIL FOUND IN THE REGION. DURING THE TIME OF THE SAMPLE COLLECTION, OXY OMITTED BARIUM (LDNR TRUC TOTAL) DUE TO CONFUSION BETWEEN THE COGCC AND OPERATORS AS TO THE VALIDITY OF THIS ANALYTICAL STANDARD FOR BARIUM.

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? _____

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.

THE PRODUCTION PIT WAS CONSTRUCTED AT GRADE WITH OXY'S CASCADE CREEK 609-14 WELL PAD, AND WAS ~12 FEET DEEP. THE PIT LINER WAS SENT TO THE GARFIELD COUNTY LANDFILL FOR DISPOSAL. THE RECLAIMED PIT WAS CONTOURED TO BE LEVEL WITH THE PAD GRADE TO MINIMIZE STORMWATER RUNOFF. FINAL PAD RECLAMATION WILL OCCUR AT THE END OF THE LIFE OF THE PAD.

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. 08/25/2008

Date of completion of Site Investigation. 10/15/2008

REMEDIAL ACTION DATES

Date of commencement of Remediation. 09/10/2008

Date of completion of Remediation. 12/15/2010

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Pit was closed and sampled in 2008. Form 27 was submitted in 2010 requesting closure of pit. 2008 sample was conducted prior to 2009 rules. Laboratory data is compared to Table 910-1 due to being submitted 2 years after closure date of pit and sampling. Due to pit being closed prior to Table 910, Laramie is requesting closure of REM 5435. Original closure request submitted in 2010, but NFA and closure of pit within COGCC database was not completed.

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: 04/02/2021

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: 06/01/2021

Remediation Project Number: 5435

Condition of Approval**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.
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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**

402647217	FORM 27-SUPPLEMENTAL-SUBMITTED
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Total Attach: 1 Files

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

Environmental	Comply with COGCC reclamation rules for former pit area.	06/01/2021
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Total: 1 comment(s)