

State of Colorado
Energy & Carbon Management Commission

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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 ECOM 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>()</u>
Contact Person: <u>Matt Kasten</u>	Email: <u>mkasten@laramie-energy.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 7258 Initial Form 27 Document #: 2230283

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: Update

SITE INFORMATION

No Multiple Facilities

Facility Type: <u>LOCATION</u>	Facility ID: <u>423444</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>Mesa Cuttings Disposal Facility</u>	Latitude: <u>39.534710</u>	Longitude: <u>-108.224240</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWSE</u>	Sec: <u>9</u>	Twps: <u>6S</u>	Range: <u>97W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications OH Most Sensitive Adjacent Land Use 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

WATER WELL ~1.58 MILES NW, UNNAMED INTERMITTENT DRAINAGE ~500' SE, NATURAL DRAINAGE ~500' SE.

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 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 checked="" 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	GROUNDWATER	NOT APPLICABLE	LABORATORY ANALYTICAL DATA
No	SOILS	NOT APPLICABLE	LABORATORY ANALYTICAL DATA
No	SURFACE WATER	NOT APPLICABLE	LABORATORY ANALYTICAL DATA
No	VEGETATION	NOT APPLICABLE	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 SUBMITTED A FORM 2A ON FEBRUARY 23, 2011 REQUESTING APPROVAL OF THE INCLUDED MESA CUTTINGS DISPOSAL AREA (MCDA)CUTTINGS MANAGEMENT PLAN. THE COGCC APPROVED THE CUTTINGS MANAGEMENT PLAN FOR THE MCDA ON JUNE 3, 2011. AS REQUESTED IN THE APPROVED DOCUMENT, OXY IS PROVIDING THIS FORM 27 TO INITIATE CLOSURE OF THE MCDA DRILL CUTTINGS DISPOSAL AREA FOR COGCC REVIEW AND 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):

Soil samples were not collected; however, cuttings samples were obtained. cuttings were stabilized with sawdust on each well pad to absorb de minimus amounts of fluids present in the cuttings. Cuttings samples were collected following the transport of the cuttings to the MCDA. The cuttings were then mixed with native materials and resampled.

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):

Down gradient surface water will be monitored before, during and after cuttings disposal operations.

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 24
Number of soil samples exceeding 915-1 24
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 20037
6

NA / ND

-- Highest concentration of TPH (mg/kg) 1902
-- Highest concentration of SAR 61
BTEX > 915-1 Yes
Vertical Extent > 915-1 (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) 100
Number of groundwater monitoring wells installed 0
Number of groundwater samples exceeding 915-1 0

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

6 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.

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?

OXY WILL FOLLOW UP WITH A FINAL FORM 27 FOR CLOSURE, REVEGETATION EFFORTS, MONITORING FOR STORMWATER, AND SEMI-ANNUAL INSPECTIONS ON THE SITE.

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.

AS DESCRIBED IN THE DRILL CUTTINGS MATERIALS MAANGEMENT PLAN OXY TRANSPORTED DRILL CUTTINGS VIA TRUCK FROM THE 697-04D, 608-41, 608-43-31, 609-33, 697-16-28, AND 697-05C WELL PADS TO THE MCDA CUTTINGS DISPOSAL AREA. THE CUTTINGS WERE TRANSPORTED TO THE RECEIVING/MIXING AREA ON THE LOCATION, MIXED WITH NATIVE MATERIAL, AND THEN STACKED AT THE PERMANENT DISPOSAL LOCATION UNTIL ~14,189 CU YDS OF CUTTINGS WERE DISPOSED. OXY COLLECTED AND ANALYZED MIXED CUTTINGS SAMPLES WITHIN THE MCDA DISPOSAL AREA AND ANALYZED THEM FOR COGCC TABLE 910-1. OXY WILL CAP THE CUTTINGS WITH AT LEAST 3 FEET OF NATIVE MATERIAL FOR A SUFFICIENT AGRONOMIC ZONE, TO ALLOW FOR FINAL RECLAMATION.

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.

Cuttings were mixed on site and resampled. The cuttings were then capped with at least 3 feet of native material to ensure a sufficient agronomic zone. The site was prepared for reclamation by recontouring and seed bed preparation.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)

_____ Chemical oxidation

_____ Air sparge / Soil vapor extraction

_____ Natural Attenuation

Yes _____ Other _____
Cuttings were mixed and resampled.

_____ Excavate and offsite disposal

_____ If Yes: Estimated Volume (Cubic Yards) _____

_____ Name of Licensed Disposal Facility or ECMC 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 DURING THE DISPOSAL OF THE DRILL CUTTINGS. THE TRANSPORTED CUTTINGS WERE STABILIZED WITH SAWDUST ON EACH WELL PAD TO ABSORB DE MINIMUS AMOUNTS OF FLUIDS PRESENT IN THE CUTTINGS. AFTER THE CUTTINGS WERE TRANSPORTED TO THE DISPOSAL AREA THE CUTTINGS WERE ADDITIONALLY MIXED WITH NATIVE MATERIAL PRIOR TO DISPOSAL. OXY MONITORED DOWN GRADIENT WATER BEFORE, DURING AND AFTER CUTTINGS DISPOSAL OPERATIONS. CURRENTLY SURFACE WATER SAMPLING DATA SHOWS NO CHANGE TO SURFACE WATER ANALYTICAL CONCENTRATIONS IN THE STOCK POND. AS OUTLINED THE CUTTINGS MANAGEMENT PLAN, OXY HAS FOUR ADDITIONAL QUARTERLY SUFACE WATER SAMPLES TO COLLECT FOLLOWING THE FINAL RECLAMATION OF THE AREA, AND WILL PROVIDE THE DATA TO THE COGCC WHEN COMPLETED.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Approved Reporting Schedule:

Quarterly Semi-Annually Annually Other

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 _____

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? 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 _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: _____

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

E&P waste (liquid) description _____

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: _____

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

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

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? _____

Does the previous reply indicate consideration of background concentrations? _____

Does Groundwater meet Table 915-1 standards? Yes _____

Is additional groundwater monitoring to be conducted? _____

Operator shall comply with the ECMC 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.

Cuttings were mixed on site and resampled. The cuttings were then capped with at least 3 feet of native material to ensure a sufficient agronomic zone. The site was prepared for reclamation by recontouring and seed bed preparation.

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 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). _____

Proposed site investigation commencement. 05/25/2012

Proposed completion of site investigation. 08/21/2012

REMEDIAL ACTION DATES

Proposed start date of Remediation. _____

Proposed date of completion of Remediation. 11/01/2012

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

Update. No work completed q2/q3.

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

Signed: Matt Kasten

Title: Sr. Env Coordinator

Submit Date: _____

Email: mkasten@laramie-energy.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: _____

Date: _____

Remediation Project Number: 7258

COA Type

Description

<u>COA Type</u>	<u>Description</u>
0 COA	

ATTACHMENT 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

<u>Att Doc Num</u>	<u>Name</u>

Total Attach: 0 Files

General Comments

User Group

Comment

Comment Date

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
		Stamp Upon Approval

Total: 0 comment(s)