

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Jason Kosola

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 ECMC 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>RED MESA HOLDINGS/O&G LLC</u>	Operator No: <u>10254</u>	Phone Numbers
Address: <u>5619 DTC PARKWAY - STE 800</u>		
City: <u>GREENWOOD VILLAGE</u>	State: <u>CO</u>	Zip: <u>80111</u>
Contact Person: <u>Jacob Harter</u>	Email: <u>jharter@cottonwoodconsulting.com</u>	Phone: <u>(970) 946 3761</u>
		Mobile: <u>()</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 18034 Initial Form 27 Document #: 402669083

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: _____

SITE INFORMATION

No Multiple Facilities

Facility Type: <u>TANK BATTERY</u>	Facility ID: <u>479844</u>	API #: _____	County Name: <u>LA PLATA</u>
Facility Name: <u>Haun-Delaney #1 Tank Battery</u>	Latitude: <u>37.111128</u>	Longitude: <u>-108.116646</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>nwne</u>	Sec: <u>14</u>	Twp: <u>33n</u>	Range: <u>12w</u>
Meridian: <u>N</u>		Sensitive Area? <u>Yes</u>	

SITE CONDITIONS

General soil type - USCS Classifications MH Most Sensitive Adjacent Land Use Grazing

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

Cannibal Canyon

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 checked="" 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	NA	Laboratory analytical results

INITIAL ACTION SUMMARY

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

The ECMC Orphan Well Program decommissioned Haun-Delaney (OWP) #1 Tank Battery during the summer of 2021. Initial soil samples were collected in accordance with the Initial Form 27 (Doc #402669083) for the project and ECMC Rule 915.e(2)B. Initial soil sampling occurred on July 20, 2021. One soil sample was collected from beneath each of the removed above ground storage tanks (ASTs). No other production equipment was located at the tank battery at the time of site decommissioning. All samples were submitted for laboratory analysis of Table 915-1 constituents. Results indicated impacts of Total Petroleum Hydrocarbons (TPH) above ECMC Table 915-1 standards in the vicinity of the west AST. A reduced set of analytes was requested via a Supplemental Form 27 (Doc #403535181) to include only analytes that exceeded ECMC Table 915-1 during the initial sampling event (TPH). Following the approval of this Form 27, the area surrounding the west AST was excavated and impacted material was transported and disposed of offsite. Following excavation, a confirmation soil sample was collected at the base of the excavation and submitted for laboratory analysis of the impacts identified in the initial sampling event as described in the Site Investigation Report below. Laboratory results of the sample collected from the west AST excavation indicated no impacts above ECMC Table 915-1 standards.

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):

Initial soil samples were collected for laboratory analysis of ECMC Table 915-1 constituents. One sample was collected from the beneath each of the former ASTs that were located on the tank battery site. No other production equipment was located at the tank battery site at the time of decommissioning. All samples were submitted for laboratory analysis of Table 915-1 constituents.

Following the initial soil sampling, excavation of the impacted soils occurred in September 2023. Following excavation, one confirmation soil sample was collected from the base of the excavation area. The soil sample was submitted for laboratory analysis of the impacts identified in the initial sampling event as described in the Site Investigation Report below. The attached project map provides the location of all samples and excavation areas.

Proposed Groundwater Sampling

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

No groundwater or pathways to groundwater were discovered during the decommissioning activities. No groundwater samples were collected for this project.

Proposed Surface Water Sampling

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

No surface water was discovered in the vicinity of the site during the decommissioning activities. No surface water samples were collected for this project.

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 3

Number of soil samples exceeding 915-1 1

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

Approximate areal extent (square feet) 7

NA / ND

-- Highest concentration of TPH (mg/kg) 1344.1

-- Highest concentration of SAR 0.65

BTEX > 915-1 No

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)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

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

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?

Background soil samples were collected from nearby, non-impacted native soil to establish background concentrations. Background samples were analyzed for Table 915-1 constituents. Background soil samples were collected in the Red Mesa area. A background soil sampling tables is provided in the attachments. Background samples indicated Arsenic values above the ECMC Table 915-1 standards. It is requested that background concentrations be considered when evaluating this site for final closure.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 1

Volume of liquid waste (barrels) 0

Is further site investigation required?

Initial assessment and sampling occurred on July 20, 2021, and indicated soil impacts above ECMC Table 915-1 standards in the vicinity of the west AST. Soil sample SS01 (west AST), collected at a depth of six inches below ground surface (bgs) indicated TPH values exceeding the ECMC Table 915-1 standards.

Following the initial sampling event, soils within the vicinity of the west AST were excavated (~1 yard), transported, and disposed of offsite. Following excavation, one soil sample was collected from the base of the west AST excavation at a depth of two feet bgs. The soil sample was submitted for laboratory analysis of TPH and did not indicate impacts above ECMC Table 915-1 standards.

It does not appear further remediation is necessary at this time. It is requested that background concentrations be considered and that this site be approved for final closure.

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.

Approximately 1 yard of impacted soil was excavated and transported offsite to an approved disposal facility

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 activities consisted of removal of impacted soils and backfilling with clean soils in the area of the west AST of the tank battery.

Soil Remediation Summary

In Situ

Ex Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

Yes _____ Excavate and offsite disposal
If Yes: Estimated Volume (Cubic Yards) _____ 1
Name of Licensed Disposal Facility or ECMC Facility ID # _____ 0
_____ 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

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 Facility Closure

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:

Impacted soil was excavated and transported offsite to an approved disposal facility.

Volume of E&P Waste (solid) in cubic yards _____ 1

E&P waste (solid) description Impacted soils

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Envirotech Landfarm (NM Permit # NM01-0011)

Volume of E&P Waste (liquid) in barrels _____ 0

E&P waste (liquid) description No liquid E&P waste was generated during remediation activities.

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? 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 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.

Reclamation will be in accordance with ECMC 1000 Series Rules.

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? _____

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

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

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 05/01/2024

Proposed date of completion of Reclamation. 12/31/2024

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). 05/03/2021

Proposed site investigation commencement. 06/01/2021

Proposed completion of site investigation. 09/30/2021

REMEDIAL ACTION DATES

Proposed start date of Remediation. 09/20/2023

Proposed date of completion of Remediation. 10/01/2023

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

Based on soil sampling results, it appears the Haun-Delaney (OWP) #1 Tank Battery has been remediated to ECMC Table 915-1 standards. Final reclamation will be conducted per ECMC reclamation rules and prioritized based on OWP funding and staff availability. Site closure is requested based on remediation efforts and confirmation soil sampling results.

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

Signed: Jacob Harter

Title: Consultant

Submit Date: 03/14/2024

Email: jharter@cottonwoodconsulting.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: Jason Kosola

Date: 12/31/2024

Remediation Project Number: 18034

COA Type**Description**

	<p>NO FURTHER ACTION Based on the information presented, it appears that no further action is necessary at this time and the ECMC approves the closure request. However, if future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required. The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.</p>
1 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**

403655674	INVESTIGATION/REMEDICATION WORKPLAN (SUPPLEMENTAL)
403655745	ANALYTICAL RESULTS
403655749	PHOTO DOCUMENTATION
403655750	SOIL SAMPLE LOCATION MAP
403655751	ANALYTICAL RESULTS
403655752	ANALYTICAL RESULTS
403700236	ANALYTICAL RESULTS
404044378	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 8 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)