

**State of Colorado**  
**Oil and Gas Conservation Commission**

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Document Number:  
402813040

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 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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

**OPERATOR INFORMATION**

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

**PROJECT, PURPOSE & SITE INFORMATION**

**PROJECT INFORMATION**

Remediation Project #: 17944 Initial Form 27 Document #: 402650460

**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>WELL</u>	Facility ID: _____	API #: <u>067-06111</u>	County Name: <u>LA PLATA</u>
Facility Name: <u>FERGUSON NO.1 (OWP) F35-1</u>	Latitude: <u>37.063200</u>	Longitude: <u>-108.125950</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWNW</u>	Sec: <u>35</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? No

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

Cinder Gulch

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- X 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

Table with 4 columns: Impacted?, Impacted Media, Extent of Impact, How Determined. Row 1: Yes, SOILS, TBD, Field screening, 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 COGCC Orphan Well Program plugged the Ferguson No. 1 (OWP) #F35-1 well and decommissioned the associated on-location flowlines and production equipment during the summer of 2021. Soil samples were collected in accordance with the Initial Form 27 for the project and COGCC Rule 915.e(2)B. Four soil samples were collected from the site; one was collected from the wellhead excavation, one was collected from the base of an AST, and two were collected from flowline paths following removal. The AST was located on the wellsite at the time of sampling, but will be removed prior to site decommissioning. All samples were submitted for laboratory analysis of Table 915-1 constituents.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

X Will soil samples be collected as part of this investigation? ( Number, type (grab/composite), analyses, and locations of samples ):

All areas suspected of having potential impacts, including the wellhead, associated flowline(s), and production equipment (if present), were visually inspected and field screen with a PID. Using these observations and field screening results, soil samples were collected from areas most likely to be impacted. One discrete soil sample was collected from the wellhead excavation, one discrete soil sample was collected from the base of the AST, and two discrete soil sample soil samples were collected from flowline paths following removal. The AST was located on the wellsite at the time of sampling, but will be removed prior to site decommissioning. All samples were submitted for laboratory analysis of Table 915-1 constituents. The attached project map provides the location of all samples.

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 plugging and decommissioning activities. As such, 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 wellsite during the plugging and decommissioning activities. As such, no surface water samples were collected for this project.

Additional Investigative Actions

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

Off-location flowlines were not addressed during the scope of this workplan. Any off-location flowline decommissioning should be addressed on a separate Form 27.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

### Soil

Number of soil samples collected 4

Number of soil samples exceeding 915-1 4

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) 42140

-- Highest concentration of SAR 15.8

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)

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?

A representative background soil sample was collected from nearby, non-impacted native soil. Arsenic levels in the background sample were consistent with samples collected within the project area.

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?

Soil sample SS01, collected at a depth of 6 feet below ground surface (bgs) from the area adjacent to the wellhead, had TPH (total petroleum hydrocarbon) and naphthalene values exceeding the COGCC Table 915 standard.  
SS02, collected at a depth of 3 feet bgs from the flowline excavation, had lead and TPH values exceeding the COGCC Table 915 standard.  
SS03, collected at a depth of 3 feet bgs from the base of an AST, had TPH, benzene, ethylbenzene, total xylenes, and other organic compound values exceeding the COGCC Table 915 standard.  
SS04, collected at a depth of 0-1 feet bgs from the base of an AST, had SAR (sodium adsorption ratio), TPH, and naphthalene values exceeding the COGCC Table 915 standard.  
Further excavation/remediation of impacted soils around the wellhead, flowline, and ASTs may be 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.

The Ferguson No. 1 (OWP) F35-1 well was plugged and the associated on-location flowlines and production equipment were decommissioned during the summer of 2021. Soil samples were collected in accordance with the Initial Form 27 for the project. Based on Initial Form 27 soil sampling results, it appears additional remediation is needed in the vicinity of the former wellhead, flowline, and ASTs. It is estimated that approximately 40 cubic yards of soil should be excavated and disposed of at an approved facility.  
All other soil samples collected from potential areas of impacts were below COGCC Table 915 standards. Please refer to attached Results Table, Map, and Photographs.

### REMEDICATION 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.

Following removal of impacted soil, additional confirmation sample(s) should be collected to demonstrate that all remaining soil left in place is below COGCC Table 915 standards. Once complete, the excavation should be backfilled with clean soils. Remediation will likely occur during the summer of 2022.

**Soil Remediation Summary**

In Situ

Ex Situ

\_\_\_\_\_ Bioremediation ( or enhanced bioremediation )

Yes \_\_\_\_\_ Excavate and offsite disposal

\_\_\_\_\_ Chemical oxidation

If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 40

\_\_\_\_\_ Air sparge / Soil vapor extraction

Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_ 0

\_\_\_\_\_ Natural Attenuation

\_\_\_\_\_ Excavate and onsite remediation

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ 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.



# 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 COGCC 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. \_\_\_\_\_

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). 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. 05/01/2022

Proposed date of completion of Remediation. 08/31/2022

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:

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**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: ` Jacob Harter \_\_\_\_\_

Title: Consultant \_\_\_\_\_

Submit Date: ` \_\_\_\_\_

Email: jharter@cottonwoodconsulting.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: 17944

**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**

402813091	PHOTO DOCUMENTATION
402813107	SOIL SAMPLE LOCATION MAP
402813109	ANALYTICAL RESULTS

Total Attach: 3 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)