

# State of Colorado Oil and Gas Conservation Commission

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Report taken by:

John Heil

## 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: RIO MESA RESOURCES INC	Operator No: 74740	<b>Phone Numbers</b> Phone: (970) 675-8491 Mobile: (970) 620-2257
Address: P.O. BOX 984		
City: RANGELY	State: CO Zip: 81648	
Contact Person: Mike Hayes	Email: hayespetroleum@gmail.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 15643

Initial Form 27 Document #: 402365913

#### 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: PIT	Facility ID: 117370	API #: _____	County Name: RIO BLANCO
Facility Name: PHILLIPS-NEWTON 1-2		Latitude: 40.079526	Longitude: -108.812814
		** correct Lat/Long if needed: Latitude: 40.078410	Longitude: 108.811688
QtrQtr: SESW	Sec: 2	Twp: 1N	Range: 102W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Public buildings &amp; residential

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

An ephemeral drainage is located approximately 915 feet to the south/southwest as well as 1,455 feet to the north. Both tributaries of the White River. Nearest surface water is the White River located ~4355 feet to the northwest. Nearest water well is a "monitoring well" located ~2,432 feet to the north. Monitoring well was installed to a depth of 25 feet and the elevation difference is ~90 feet, suggesting that groundwater is 75-100 feet below the ground surface.

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- ☒ **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

Impacted?	Impacted Media	Extent of Impact	How Determined
Yes	SOILS	~25 feet below ground surface	Field screening and analytical sample results

## INITIAL ACTION SUMMARY

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

Site characterization will consist of hand auguring and collecting samples at every one (1) foot interval to a maximum five (5) feet on the pit bottom floor and side walls, as that is the maximum depth possible by the hand augur. Field screening will consist of a Photoionizing Detection Unit (PID) and Petroflag Hydrocarbon Analyzer (Petroflag). Samples will be collected from the interval that contains the highest field screening reading and submitted to the laboratory for full COGCC Table 910-1. Additional site investigation, remediation and sampling will be pending the initial sample results.

## 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 ):

Five samples will be collected, four (4) from the each of the side walls and one (1) from the bottom of the pit floor at the intervals that contain the highest field screening reading within a five foot column.

### 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 9

Number of soil samples exceeding 910-1 7

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

Approximate areal extent (square feet) 500

### NA / ND

-- Highest concentration of TPH (mg/kg) 16331

-- Highest concentration of SAR 68.6

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 25

### 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 910-1 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

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?

Three (3) background samples were collected from nearby off pad locations and analyzed for arsenic and inorganics (SAR/EC/pH).

☐ 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?

The pit bottom and southern side wall at five (5) feet exceed COGCC Table 910-1 for TPH, as well as all of the side walls for inorganics (EC & SAR). Arsenic exceeds Table 910-1 as well, but concentrations are comparable to background levels.

# REMEDIAL ACTION PLAN

Does this Supplemental Form 27A include changes to a previously approved Remedial Action Plan? Yes \_\_\_\_\_

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Impacted soils were excavated via backhoe/trackhoe and hauled offsite for disposal. Field screening instruments (PID and Petroflag) were utilized to guide the excavation to determine when excavation can be stopped and additional confirmation samples collected.

## 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.

Initial sampling conducted on 4/20/20 indicated that the southern side wall and pit bottom exceeded COGCC Table 910-1 thresholds for TPH, as well as arsenic and inorganics. During the summer months, soils were excavated to a depth of 18-feet below ground surface around the pit bottom sample point and ~15 feet laterally in each direction. Samples were re-collected on 9/24/20 from the pit bottom and southern side wall for TPH, which results indicated TPH still exceeded. An additional 7-foot was excavated in depth, which also required an additional 8-10 feet be excavated laterally to allow for equipment to safely extend deeper. Samples re-collected on 11/23/20 from the pit bottom at 25-feet below ground surface and off the southern side wall at ~15-feet (below ground surface and laterally from the center) indicated that TPH concentrations now satisfy COGCC Table 910-1. Inorganics were not re-analyzed as the concentrations exceeding Table 910-1 were well below 3-feet, as well as have been excavated during the remediation of the pit bottom soils. All impacted soils have been hauled offsite for disposal to RN Industries (RNI). The pit will be backfilled clean native soil consistent with the natural soils and final reclamation activities completed.

## Soil Remediation Summary

☐ In Situ

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

☒ Ex Situ

Yes \_\_\_\_\_ Excavate and offsite disposal  
If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 300  
Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_ 0  
No \_\_\_\_\_ Excavate and onsite remediation  
No \_\_\_\_\_ Land Treatment  
No \_\_\_\_\_ Bioremediation (or enhanced bioremediation)  
No \_\_\_\_\_ Chemical oxidation  
No \_\_\_\_\_ Other \_\_\_\_\_

## Groundwater Remediation Summary

No \_\_\_\_\_ Bioremediation ( or enhanced bioremediation )  
No \_\_\_\_\_ Chemical oxidation  
No \_\_\_\_\_ Air sparge / Soil vapor extraction  
No \_\_\_\_\_ Natural Attenuation  
No \_\_\_\_\_ 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.

There is no reason to believe that groundwater has been impacted

## REMEDATION PROGRESS UPDATE

### PERIODIC REPORTING

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Closure Request

**Report Type:** ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Notice of Completion (NOC)

### 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:

Soils were excavated and impacted material was hauled offsite to RNI Disposal within Rio Blanco County.

Volume of E&P Waste (solid) in cubic yards 300

E&P waste (solid) description Hydrocarbon Impacted Soil

COGCC Disposal Facility ID #, if applicable: 0

Non-COGCC Disposal Facility: RNI

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

E&P waste (liquid) description

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility:

## REMEDATION COMPLETION REPORT

### REMEDATION 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 pit will be reclaimed to the present grade of the location or to the approximate original contour of the landscape and consistent with the 1000-series Rule.

Seeding of the disturbed area will be performed in accordance with its' intended use. The seed mix will be prescribed by the landowner. There are no known noxious weeds in the immediate area of the disturbance.

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 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). 04/08/2020

Date of commencement of Site Investigation. 05/20/2020

Date of completion of Site Investigation. 07/01/2020

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 07/06/2020

Date of completion of Remediation. 12/04/2020

### SITE RECLAMATION DATES

Date of commencement of Reclamation. \_\_\_\_\_

Date of completion of Reclamation. \_\_\_\_\_

### OPERATOR COMMENT

Please forward onto John Heil

Information within the Supplemental Form 27 pertains to the remediation of the Newton 2-1 pit remediation. As outlined within the Remediation Summary of this form and per the initial Form 27 (Doc# 402365913), the soils have been excavated to a depth of approximately 25-feet below ground surface and approximately 15-feet laterally. Confirmation samples indicate that the soils satisfy COGCC Table 910-1 thresholds and the excavated material containing impacts were hauled offsite to RNI Disposal in Rio Blanco County. Consideration is being requested for any arsenic or inorganic exceedances in accordance with COGCC FAQ 31 & 32 as concentrations within the pit are either consistent with background levels and/or deeper than 3-feet.

Additionally, it was mentioned within the the Initial Form 27 (Doc# 402365913) that FIR Doc# 696201353 references stained soils in the area of where the tank battery was previously located. The area where the stained soils were noted were sampled on 7/14/20, which results indicated TPH and PAH exceedances on the northern and western side of the containment. Soils were excavated ~1-2 feet and re-sampled on 9/24/20. Results indicate soils satisfy COGCC Table 910-1 thresholds with the exception to arsenic, which are consistent with background concentrations and consideration is being requested in accordance with COGCC FAQ 31.

To date, the well has been P&A (11/27/2018) and all equipment/trash and debris has been removed. The final production facility (production pit) associated with the location (315237) & API 05-103-08118 has been remediated.

Rio Mesa Resources is requesting closure of this pit (Facility ID 117370) and REM# 15643, so that final reclamation of the site can be completed.

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

Signed: Mike Hayes

Title: Owner

Submit Date: 12/29/2020

Email: hayespetroleum@gmail.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: John Heil

Date: 01/21/2021

Remediation Project Number: 15643

### COA Type

### Description

After review of the data presented, elevated levels of [SAR/EC/pH] exist deeper than three feet below ground surface. Per guidance in FAQ 32, elevated levels of [SAR/EC/pH] at three feet below ground surface or deeper should not adversely affect the successful reclamation of the site. If groundwater is found to be impacted, or if reclamation is not compliant with the 1000-series rules, additional 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.

### 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.

<u>Att Doc Num</u>	<u>Name</u>
402561130	FORM 27-SUPPLEMENTAL-SUBMITTED
402561159	ANALYTICAL RESULTS
402561161	ANALYTICAL RESULTS
402561168	ANALYTICAL RESULTS
402561172	ANALYTICAL RESULTS
402561175	ANALYTICAL RESULTS
402561177	SOIL SAMPLE LOCATION MAP
402561212	ANALYTICAL RESULTS
402561213	ANALYTICAL RESULTS
402561214	SOIL SAMPLE LOCATION MAP
402561924	ANALYTICAL RESULTS

Total Attach: 11 Files

**General Comments**

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

Total: 0 comment(s)