

# 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 #: 15663

Initial Form 27 Document #: 402402254

#### 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: 117371	API #: _____	County Name: RIO BLANCO
Facility Name: NEWTON 1-1		Latitude: 40.079546	Longitude: -108.784393
		** correct Lat/Long if needed: Latitude: 40.079285	Longitude: -108.784005
QtrQtr: SESE	Sec: 1	Twp: 1N	Range: 102W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SC

Most Sensitive Adjacent Land Use Residential

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? Yes

#### Other Potential Receptors within 1/4 mile

Ephemeral drainage is located approximately 850 feet to the east/northeast. Surface water (Douglas Creek) is located approximately 2,235 feet to the east. Nearest constructed water well (Well Permit # 67236) is located ~3,300 feet to the north and indicates a depth of 30 feet. The elevation different between the water well and the pit is ~200 feet, suggesting that groundwater is greater than 100 feet deep.

# 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	~20 feet below ground surface	Analytical data and field screening

## INITIAL ACTION SUMMARY

Description of initial action or emergency response measures take 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 8  
Number of soil samples exceeding 910-1 6  
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) 14365  
-- Highest concentration of SAR 34.2  
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) 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 at five (5) feet exceeds COGCC Table 910-1 for TPH, as well as the northern and southern side walls for inorganics (EC & SAR). Arsenic exceeds Table 910-1 as well, but concentrations are comparable to background levels. Refer to remediation section for updated information.

# 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/tracker 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.

## 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.

Initial sampling conducted on 4/20/20 indicated that the pit bottom exceeded COGCC Table 910-1 thresholds for TPH, as well as arsenic in all the samples and inorganics within the southern, northern and bottom samples. During the summer months, soils were excavated to a depth of 15-feet below ground surface and ~10 feet laterally in each direction. Samples were re-collected on 9/24/20 from the pit bottom for TPH and arsenic, as well as the eastern wall for arsenic as concentrations appeared to be much higher than background levels within the other samples collected from the pit footprint. Results indicated arsenic were at or below background levels, however TPH still exceeded on the pit bottom. An additional 5-foot was excavated in depth, which also required an additional 5-8 feet be excavated laterally to allow for equipment to safely extend deeper. Samples re-collected from the bottom at 20-feet indicated that TPH concentrations now satisfy COGCC Table 910-1. Inorganics were not re-analyzed as the concentrations exceeding Table 910-1 were 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

<input type="checkbox"/> In Situ	<input checked="" type="checkbox"/> Ex Situ
<input type="checkbox"/> Bioremediation ( or enhanced bioremediation )	Yes <input type="checkbox"/> Excavate and offsite disposal
<input type="checkbox"/> Chemical oxidation	<input type="checkbox"/> If Yes: Estimated Volume (Cubic Yards) <input type="text" value="220"/>
<input type="checkbox"/> Air sparge / Soil vapor extraction	<input type="checkbox"/> Name of Licensed Disposal Facility or COGCC Facility ID # <input type="text" value="0"/>
<input type="checkbox"/> Natural Attenuation	No <input type="checkbox"/> Excavate and onsite remediation
<input type="checkbox"/> Other <input type="text"/>	No <input type="checkbox"/> Land Treatment
	No <input type="checkbox"/> Bioremediation (or enhanced bioremediation)
	No <input type="checkbox"/> Chemical oxidation
	No <input type="checkbox"/> Other <input type="text"/>

## Groundwater Remediation Summary

No <input type="checkbox"/>	Bioremediation ( or enhanced bioremediation )
No <input type="checkbox"/>	Chemical oxidation
No <input type="checkbox"/>	Air sparge / Soil vapor extraction
No <input type="checkbox"/>	Natural Attenuation
<input type="checkbox"/>	Other <input type="text"/>

## 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.

## REMEDIATION PROGRESS UPDATE

### PERIODIC REPORTING

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

**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:

Approximately 220 yards were excavated and impacted soils were hauled offsite to RNI for disposal.

Volume of E&P Waste (solid) in cubic yards 0

E&P waste (solid) description hydrocarbon impacted soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: RN Industries (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:

## 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 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. 04/20/2020

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 1-1 pit remediation. As outlined within the Remediation Summary of this form and per the initial Form 27 (Doc# 402402254), soils have been excavated to a depth of approximately 20-feet below ground surface and approximately 10-15 feet laterally from the center of the pit. 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 within COGCC FAQ 31 & 32 as concentrations within the pit are either consistent with background levels and/or deeper than 3-feet.

To date, the well has been P&A (6/1/2012) and all equipment/trash and debris has been removed. The final production facility (production pit) associated with the location (Facility ID 315256) & API 05-103-08172 has been remediated.

Rio Mesa Resources is requesting closure of this pit (Facility ID 117371) and REM# 15663, 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: 15663

**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.
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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**

402561072	FORM 27-SUPPLEMENTAL-SUBMITTED
402561096	ANALYTICAL RESULTS
402561097	ANALYTICAL RESULTS
402561098	ANALYTICAL RESULTS
402561099	ANALYTICAL RESULTS
402561100	ANALYTICAL RESULTS
402561101	SOIL SAMPLE LOCATION MAP

Total Attach: 7 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)