

# State of Colorado Oil and Gas Conservation 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 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: BAYLESS PRODUCER LLC* ROBERT L	Operator No: 6720	<b>Phone Numbers</b>
Address: P O BOX 168		
City: FARMINGTON	State: NM Zip: 87499	
Contact Person: HELEN TRUJILLO	Email: NOTICES@RLBAYLESS.COM	
		Phone: (505) 3262659
		Mobile: (505) 3266911

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 10640

Initial Form 27 Document #: 401317037

#### 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 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 checked="" type="checkbox"/> Other remediation plan for landfarming small blowdown pit soil on site |

#### SITE INFORMATION

N Multiple Facilities ( in accordance with Rule 909.c. )

Facility Type: LOCATION	Facility ID: 312956	API #:	County Name: MOFFAT
Facility Name: MARTIN, ALTA-610N93W 33NESW		Latitude: 40.779173	Longitude: -107.844551
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NESW	Sec: 33	Twp: 10N	Range: 93W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use unknown

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

# 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	51 ft x 62 ft x 11.5 ft deep pit	Soil test exceeded Table 910-1 in year 2016

## INITIAL ACTION SUMMARY

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

No immediate action was cause, old pit closure.

## 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 ):

A five point composite sample per 1,000 yds<sup>3</sup> of impacted soil is collected every 6-8 weeks to monitor soil conditions and the concentrations of exceeding constituents. If the monitoring sample reveals a constituent meets Table 910-1 standards, it is removed from the sampling list to reduce analytical costs. The monitoring sampling will continue until all constituents of concern meet Table 910-1 standards.

### 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 1

Number of soil samples exceeding 910-1 1

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) 0

-- Highest concentration of SAR 0

BTEX > 910-1 No

Vertical Extent > 910-1 (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) 0

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

Highest concentration of Benzene (µg/l) 0

Highest concentration of Toluene (µg/l) 0

Highest concentration of Ethylbenzene (µg/l) 0

Highest concentration of Xylene (µg/l) 0

Highest concentration of Methane (mg/l) 0

### 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?

Please see attached

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

Volume of solid waste (cubic yards) 0

Volume of liquid waste (barrels) 0

☐ Is further site investigation 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.

Approximately 90 cu yds of soil was removed from pit on 11/16/2016 and placed on liner.

## 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.

Another soil sample is being collected. If the contaminants exceed Table 910-1, then we will proceed with the following:

The degradation of hydrocarbons utilizing microbes is a natural process that is enhanced and accelerated by techniques developed by HRL. Maintaining proper soil conditions and nutrient levels is essential to microbial growth and productivity, and will be achieved by implementing several techniques.

Construction of the Land Treatment Unit (LTU) consists of designating an area on location that is segregated from day-to-day operations. Depending on the location, the pad surface material (road base) is usually removed to provide a compactable surface of low permeability to prevent downward migration of contaminants. Berms are also established around the LTU to prevent any migration of remediation products or stormwater that has come into contact with the impacted material. A sturdy liner material can also be utilized as a base to the LTU if requested by governing agencies, although equipment used in the remediation process can damage the liner. The impacted soil is then applied to the LTU in a thickness that is conducive to bio-remediation; typically eight to fourteen inches.

Bio-remediation products and nutrients will then be applied to the LTU to promote microbial growth and proliferation. Water will be applied to maintain a moisture content essential to microbial mobility. The LTU will also be aeriated to provide oxygen and ensure even product distribution and a consistent media for treatment. Nutrient and water applications, in combination with aeration, can continue until analytical data confirms COGCC Table 910-1 standards are met.

## Soil Remediation Summary

☐ In Situ

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

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

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

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

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

☒ Ex Situ

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

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

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

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

Yes \_\_\_\_\_ Land Treatment

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

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

No \_\_\_\_\_ 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

**Frequency:** ☐ Quarterly ☐ Semi-Annually ☐ Annually ☐ Other \_\_\_\_\_

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

### WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? \_\_\_\_\_

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 \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

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.

This is still a producing well site so we will not be seeding at this time.

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? \_\_\_\_\_

If NO, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

## 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). 07/03/2017

Date of commencement of Site Investigation. \_\_\_\_\_

Date of completion of Site Investigation. \_\_\_\_\_

### **REMEDIAL ACTION DATES**

Date of commencement of Remediation. 07/14/2017

Date of completion of Remediation. 11/21/2017

### **SITE RECLAMATION DATES**

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

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

OPERATOR COMMENT

## SUMMARY

The baseline stockpile sample collected in Nov 2016 indicated that the soils did not exceed Table 910-1, but as a BMP, Bayless wanted to re-sample in the spring/summer of 2017 to confirm. A resample was collected June 28, 2017 where only the southern stockpiled exceeded. All of the soils (impacted and over excavated burden) within the stockpile were tilled together about every 3 months by the lease operator prior to bioremediation.

On August 1st, 2017, the stockpiled soils from the excavation were placed within a treatment cell (landfarm) where it was tilled together with over clean excavated burden material. The soils were tilled utilizing a tractor mounted rototiller containing 24" tines. After a homogenous mixture was obtained and during tilling operations, soil conditions were utilized to break apart the clay soils, as well as a time released nitrogen. Once amendments were added, a concentrated dose of bioremediation product was applied with two (2) tanks (~1000 gallons) of water. The water again tilled to ensure microbes were incorporated into the soil profile.

The Bayless lease operator continued to turn the soil with a backhoe:

- Soils turned on 09/05/2017
  - Scattered showers through month of September, soil was moist when turned.
- Soils turned on 10/09/2017
  - Heavier showers through month of October, soil still moist when turned.
- Soils turned on 11/15/2017
  - Scattered showers through month of November, soil still moist when turned.

Soils were left in an average depth of 18'-24".

- Soil sample taken 11/21/2017

The bioremediation treatment for the landfarmed soils was successful. Please see the most recent results attached. The updated sample map shows the landfarm was most recently sampled, north and south, with a 5-point method.

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

Signed: HELEN TRUJILLO

Title: OFFICE MANAGER

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

Email: [NOTICES@RLBAYLESS.COM](mailto:NOTICES@RLBAYLESS.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: 10640

COA Type

### Description

## 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**

401482618	ANALYTICAL RESULTS
401482621	OTHER
401501791	MAP

Total Attach: 3 Files

## General Comments

### User Group

### Comment

**Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)