

State of Colorado  
Oil and Gas Conservation Commission

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402377242  
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04/27/2020  
Report taken by:  
Jim Hughes

Site Investigation and Remediation Workplan (Initial 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: <u>BERRY PETROLEUM COMPANY LLC</u>	Operator No: <u>10091</u>	<b>Phone Numbers</b> Phone: <u>(970) 285-5207</u> Mobile: <u>(970) 210-6693</u>
Address: <u>5201 TRUXTUN AVENUE #100</u>		
City: <u>BAKERSFIELD</u>	State: <u>CA</u> Zip: <u>90339</u>	
Contact Person: <u>Don Wilbourn</u>	Email: <u>dwilbourn@bry.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**  
Remediation Project #: 15535 Initial Form 27 Document #: 402377242

**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 checked="" 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: <u>SPILL OR RELEASE</u>	Facility ID: <u>474500</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>Long Ridge J15</u>		Latitude: <u>39.609861</u>	Longitude: <u>-108.038222</u>
		** correct Lat/Long if needed: Latitude: _____	Longitude: _____
QtrQtr: <u>NW/SE</u>	Sec: <u>15</u>	Twp: <u>5S</u>	Range: <u>95W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

**SITE CONDITIONS**

General soil type - USCS Classifications ML Most Sensitive Adjacent Land Use grazing

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:

- |                                                    |                                                      |                                        |
|----------------------------------------------------|------------------------------------------------------|----------------------------------------|
| <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 type="checkbox"/> Oil                       | <input type="checkbox"/> Tank Bottoms                |                                        |
| <input checked="" 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
Yes	SOILS	177 cu yds	Calculation of excavated soil

## INITIAL ACTION SUMMARY

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

Excavated to dry soil and no smell or visible signs of condensate. Excavated floor to bedrock.

## 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 ):

7 discrete samples were taken. Location of samples are on spill report. Analytical report attached.

### 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 7

Number of soil samples exceeding 910-1 4

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

Approximate areal extent (square feet) 600

### NA / ND

-- Highest concentration of TPH (mg/kg) 9372.1

-- Highest concentration of SAR 37.8

BTEX > 910-1 Yes

Vertical Extent > 910-1 (in feet) 8

### 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 910-1         

-- Highest concentration of Benzene (µg/l) 7.63

-- Highest concentration of Toluene (µg/l) 119

-- Highest concentration of Ethylbenzene (µg/l) 14.5

-- Highest concentration of Xylene (µg/l) 188

NA Highest concentration of Methane (mg/l)         

### Surface Water

0 Number of surface water samples collected

         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?

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?

# REMEDIAL ACTION PLAN

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Material was excavated and moved to adjoining location. Material was stockpiled on pit liner and will be spread out on location for landfarming operations.

## 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.

Material will be spread on location and landfarmed until 910 standards are met. Plans to spread material and start landfarming will proceed as soon as approval is granted. An estimated 3 month time frame for soil to pass standards is expected.

## Soil Remediation Summary

In Situ

Ex Situ

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

No \_\_\_\_\_ Excavate and offsite disposal

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

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

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

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

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

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

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

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

No \_\_\_\_\_ Bioremediation (or enhanced bioremediation)

No \_\_\_\_\_ Chemical oxidation

Yes \_\_\_\_\_ Other \_\_\_\_\_ Landfarm

## 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: \_\_\_\_\_

## 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.

Berry plans to landfarm the contaminated soil at the adjacent J15 wellpad. Once the landfarmed material meets the 910-1 standards Berry will return this material to the excavated locatoin to serve as fill. The returned material will then be covered with topsoil and graded to match the surrounding contours of the pipeline right-of-way. The graded top soil will then be covered with an approved seed mixture and reclaimed to its previous condition.

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?  Yes \_\_\_\_\_

## IMPLEMENTATION SCHEDULE

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. 03/30/2020

Actual Spill or Release date, if known. 03/30/2020

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/30/2020

Date of commencement of Site Investigation. 03/30/2020

Date of completion of Site Investigation. 04/01/2020

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 04/01/2020

Date of completion of Remediation. \_\_\_\_\_

### SITE RECLAMATION DATES

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

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

## OPERATOR COMMENT

A produced water/condensate spill caused by a leak in a buried pipeline near Berry's J15 well pad was identified by Berry personnel. Upon discovery of the leak all wells upstream of the location were shut in and the section of pipe was isolated to allow for excavation and repair. The contaminated area was excavated until dirt free of contamination could be identified. As part of the excavation Berry had 7 discrete samples taken to determine the level of contamination, and the nature of contaminants, in the affected soil. Approximately 170 cubic yards of contaminated material were removed from the location and transported 200 yards to the adjacent J15 pad. All contaminated soil was placed on a liner for landfarming which will commence following the approval of this form. Following approval Berry will spread the material uniformly across the liner, berm around the landfarm area and commence landfarming operations. The estimated time to successfully remediate the affected soil is three months. Following successful remediation, which will be shown via conformity to the 910-1 standards, the material will be transported back to the excavated location to serve as fill material. The fill material will be covered by topsoil and the location graded to match the surroundings. The graded location will then be seeded with an approved seed mixture and returned to its original state.

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

Signed: ` Don Wilbourn \_\_\_\_\_

Title: Const. Foreman \_\_\_\_\_

Submit Date: ` 04/27/2020 \_\_\_\_\_

Email: dwilbourn@bry.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: Jim Hughes \_\_\_\_\_

Date: 05/18/2020 \_\_\_\_\_

Remediation Project Number: 15535 \_\_\_\_\_

## COA Type

## Description

	The land farm treatment cell, as described in this Initial Form 27, shall exclusively contain impacted material from Spill/Release Point ID #474500. No other material may be added to this treatment cell without prior approval.
	Assess the nature and extent of contamination with confirmation soil samples. Delineate the horizontal and vertical extent of impacted area and remediate impacts to Table 910-1 standards. Documentation must include a figure showing spill area with sample locations plus laboratory results.
	Surface disturbances shall be reclaimed in accordance with the 1000 Series Reclamation Regulations. Consult COGCC Reclamation Specialist regarding interim and/or final reclamation.
	Upon approval of this Form 27 Site Investigation and Remediation Workplan and the generation of a Remediation Project number, the operator shall submit a Supplemental Form 19 requesting closure of Spill/Release Point ID #474500, with work proceeding under an approved Form 27.
	This Site Investigation and Remediation Workplan (Form 27) is conditionally approved; however, additional information or activities may be required during the course of remediation.

## 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

402377242	FORM 27-INITIAL-SUBMITTED
402381808	ANALYTICAL RESULTS

Total Attach: 2 Files

## General Comments

### User Group

### Comment

### Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)