

# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



Document Number:

401621714

Receive Date:

04/26/2018

Report taken by:

CHRIS CANFIELD

## 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: TOP OPERATING COMPANY	Operator No: 39560	<b>Phone Numbers</b> Phone: (720) 6631698 Mobile: ( )
Address: 3609 S WADSWORTH BLVD STE 340		
City: LAKEWOOD	State: CO Zip: 80235	
Contact Person: Paul Herring	Email: paul.herring@topoperating.com	

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 11300

Initial Form 27 Document #: 401621714

#### 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 Additional testing related to alleged impacted ground water and soil |

#### SITE INFORMATION

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

Facility Type: LEASE	Facility ID: 10507	API #:	County Name: BOULDER
Facility Name: RIDER FAMILY TRUST #1		Latitude:	Longitude:
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NESE	Sec: 36	Twp: 3N	Range: 69W Meridian: 6 Sensitive Area? Yes

#### SITE CONDITIONS

General soil type - USCS Classifications CL

Most Sensitive Adjacent Land Use Middle school and housing development

Is domestic water well within 1/4 mile? Yes

Is surface water within 1/4 mile? Yes

Is groundwater less than 20 feet below ground surface? Yes

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
UNDETERMINED	GROUNDWATER	Uncertain	Uncertain
UNDETERMINED	SOILS	Uncertain	Uncertain

## **INITIAL ACTION SUMMARY**

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

Per discussion with the COGCC held on COGCC on April 26, 2018 at 11:00am at the COGCC headquarters building, TOP will conduct additional soil bore testing as near as practicable the same area as the alleged contaminated (based on Table 910 limits) soil bores in the Terracon report provided to the COGCC by the City of Longmont. Specifically, TOP will test the following locations documented on Exhibit 4 of the Terracon report:

SB-11 (10-12')  
SB-07 (10-12')  
SB-06 (8-10')

In addition, TOP will perform ground water testing on the MW-01R groundwater monitoring well.

Based on the results of these tests, TOP will consult with the COGCC on additional remediation activities, if any, to be performed.

TOP will need to receive permission from the City of Longmont in order to access the MW-01R water well as there are locks on the well preventing access.

## **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 ):

TOP will conduct additional soil bore testing as near as practicable the same area as the alleged contaminated soil bores in the Terracon report provided to the COGCC by the City of Longmont. Specifically, TOP will test the following locations documented on Exhibit 4 of the Terracon report:

SB-11 (10-12')  
SB-07 (10-12')  
SB-06 (8-10')

TOP will collect 3 samples from each location and 3 base samples. TOP will test for BTEX, GRO and DRO and determine if they exceed 910 limits.

### **Proposed Groundwater Sampling**

☒ Will groundwater samples be collected as part of this investigation? ( Number, analyses, and locations of samples ):

TOP will perform ground water testing on the MW-01R groundwater monitoring well. TOP will test 3 samples of ground water from the well. TOP will test for BTEX and determine if the samples exceed 910 limits.

### **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 \_\_\_\_\_ 0

Number of soil samples exceeding 910-1 \_\_\_\_\_

Was the areal and vertical extent of soil contamination delineated? \_\_\_\_\_

Approximate areal extent (square feet) \_\_\_\_\_

### NA / ND

\_\_\_\_\_ Highest concentration of TPH (mg/kg) \_\_\_\_\_

\_\_\_\_\_ Highest concentration of SAR \_\_\_\_\_

\_\_\_\_\_ BTEX > 910-1 \_\_\_\_\_

\_\_\_\_\_ Vertical Extent > 910-1 (in feet) \_\_\_\_\_

### 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) \_\_\_\_\_

\_\_\_\_\_ 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 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.

Any soil removal that may be necessary will be included in a subsequent remediation plan.

## 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.

A remediation plan will be developed if soil and ground water contamination is found during this testing.

## 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 # \_\_\_\_\_
- \_\_\_\_\_ Excavate and onsite remediation
- \_\_\_\_\_ 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.

## 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.

A reclamation plan may be developed based results of this testing.

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? ☐ No \_\_\_\_\_

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

## 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). 05/01/2018

Date of commencement of Site Investigation. 05/01/2018

Date of completion of Site Investigation. 05/15/2018

### REMEDIAL ACTION DATES

Date of commencement of Remediation. \_\_\_\_\_

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

### SITE RECLAMATION DATES

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

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

## OPERATOR COMMENT

TOP believes that the alleged contamination contained in the Terracon report needs to be verified. There have been many instances where there are discrepancy in environmental consulting reports between Terracon and our consultants. Based on a conversation with the COGCC on April 26, 2018, TOP believes immediate testing should occur in the area of the contamination. TOP would conduct the testing as soon as the plan is approved by the COGCC and permission is obtained from the surface owner (City of Longmont). If contamination is found, an additional remediation plan would be submitted to the COGCC and upon approval, executed.

In response to the NOAV issued on March 5, 2018, TOP Operating Company proposes the following next set of actions:

With the consent of the surface owner, TOP will cause the conduct of additional soil bore testing as near as practicable to the same area as the alleged contaminated (based on Table 910 limits) soil bores in the Terracon report provided to the COGCC by the City of Longmont. Specifically, TOP will cause the testing of the following locations documented on Exhibit 4 of the Terracon report:

SB-11 (10-12')

SB-07 (10-12')

SB-06 (8-10')

In addition, TOP will also cause the performance of ground water testing on the MW-01R groundwater monitoring well.

TOP will submit the testing results to the COGCC, as soon as the test results are transmitted, which it will try to complete within a period of two weeks to one month. Depending upon the results of this testing, TOP will formulate a supplemental plan, if and as needed and appropriate

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

Signed: ` Paul Herring

Title: Landman

Submit Date: ` 04/26/2018

Email: paul.herring@topoperating.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: CHRIS CANFIELD

Date: 05/04/2018

Remediation Project Number: 11300

## 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

401621714	FORM 27-INITIAL-SUBMITTED
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Total Attach: 1 Files

## General Comments

User Group	Comment	Comment Date
Environmental	<p>I am approving the Form 27 Document #401621714 subject to the following conditions of approval (COA):</p> <p>1. Notice of Alleged Violation - Document #401562368 (NOAV) issued on 03/05/2018 lists as abatement actions, two areas at the Rider Family Trust location (Location ID #321290) for which Top Operating Company (Top) is to submit an eForm 27 Site Investigation and Remediation Work Plan. A single comprehensive Form 27 is acceptable only if its scope of work addresses the alleged violations of both Rule 324.A.a and Rule 905.b that are described in the NOAV. The Form 27, as submitted, fails to do so.</p> <p>2. Proposed Soil Sampling: Implementation of the Form 27 must result in an appropriate number of samples located so as to evaluate both the vicinity of the former horizontal separator (the alleged violation of Rule 324A.a) and the former partially-buried produced water vessel (the alleged violation of Rule 905.b). As per Rule 910.b.(3)B, the horizontal and vertical extent of any contamination must be determined. The minimum number of samples required are as follows;</p> <p>a. Former Horizontal Separator Area: three (3) soil samples arranged in a triangle around the sampling site identified as "SB-11" in the City of Longmont's Limited Soil, Groundwater, and Soil Gas Investigation – Rider Oil and Gas Well Site (COGCC Document #2496197)</p> <p>b. Former Partially-buried Vessel Area: one (1) soil sample from the center of each wall of the excavation created during removal of the vessel and one (1) from the center of that excavation. As the excavation has been reclaimed, it is essential that native material, as opposed to imported fill material, be sampled. The center sample must be collected from beneath the floor of the reclaimed excavation.</p> <p>c. Site-specific Background: As produced water was managed at both the former partially-buried vessel and the former horizontal separator, three (3) additional soil samples of nearby non-impacted native soil are required to establish site-specific background conditions as per Rule 910.b.(3)D.</p> <p>3. Field Screening of Soil Samples: Each soil boring must be sampled continuously. Each soil sample is to be described and field screened by personnel with appropriate training and equipment. The most heavily impacted sample collected from each soil boring will be submitted for laboratory analysis. If no impacts are observed within a soil boring, then the bottom soil sample from that soil boring will be submitted to the laboratory. All field notes including soil sample descriptions and field screening results will be submitted to the COGCC as a progress update to the site investigation.</p> <p>a. Laboratory Analysis: Soil samples will be transferred for laboratory analysis under chain-of-custody procedures. All soil samples will be analyzed for TPH (total volatile and extractable petroleum hydrocarbons, carbon range C6 through C36), pH, electrical conductivity, and sodium adsorption ratio (SAR). SAR analysis must be performed by USDA Agricultural Handbook 60 Method 20B with soluble cations determined by method (2).</p> <p>4. Identification of Sample Sites: the latitude and longitude of each sample site will be determined by means of a Global Positioning System (GPS) in a manner consistent with COGCC Rule 215.</p> <p>5. Proposed Groundwater Sampling: Top proposes collection of three (3) groundwater samples from MW-01R, each to be analyzed for BTEX. However, a schedule for doing so was not proposed. A minimum of four (4) consecutive quarters of groundwater quality is required. Further, Top must follow COGCC Operator Guidance for Groundwater Sampling and Monitoring. Quarterly monitoring reports must be submitted upon Top's receipt of the laboratory reports. Electronic Data Deliverables (EDDs) must be uploaded to the COGCC groundwater quality database.</p> <p>6. Implementation Schedule: In addition to obtaining access authorized by the surface owner (City of Longmont), Top must provide the COGCC with one (1) week notice before starting field work. COGCC personnel will be present to witness the subject work and collect split samples. The subject field work should commence no later than Monday June 4, 2018.</p>	05/04/2018

Total: 1 comment(s)