

State of Colorado  
Oil and Gas Conservation Commission

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Report taken by:  
CHRIS CANFIELD

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 INFORMATON

Name of Operator: TOP OPERATING COMPANY	Operator No: 39560	<b>Phone Numbers</b>
Address: 3609 S WADSWORTH BLVD STE 340		Phone: (720) 663-1698
City: LAKEWOOD State: CO Zip: 80235		Mobile: ( )
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 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 Facilites ( 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:

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> E&P Waste                 | <input type="checkbox"/> Other E&P Waste                   | <input checked="" type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids                   | Unknown _____                                     |
| <input type="checkbox"/> Oil                       | <input type="checkbox"/> Tank Bottoms                      |   |
| <input 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
No	GROUNDWATER	N/A	lab results
No	SOILS	N/A	lab results

## INITIAL ACTION SUMMARY

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

A soil boring assessment was conducted, per approved 27 (document # 401621714): 13 soil borings were advanced to a total depth of 15 feet adjacent to previously identified contamination based on Table 910 limits (document #2496197). Three soil borings had elevated TPH concentrations @7.5-10'. A grab groundwater sample was collected from previously installed MW-01R. The sample did not contain concentrations of BTEX above applicable Table 910 limits.

## 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 ):

### Proposed Groundwater Sampling

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

A groundwater sample was collected from monitoring well MW-01R2. The groundwater sample was submitted for BTEX analysis following EPA Method 8260c.

### 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 56  
Number of soil samples exceeding 910-1 10  
Was the areal and vertical extent of soil contamination delineated? Yes  
Approximate areal extent (square feet) 6804

### NA / ND

-- Highest concentration of TPH (mg/kg) 2270  
-- Highest concentration of SAR 4.07  
BTEX > 910-1 No  
Vertical Extent > 910-1 (in feet) 10

### Groundwater

Number of groundwater samples collected 9  
Was extent of groundwater contaminated delineated? Yes  
Depth to groundwater (below ground surface, in feet) 9'  
Number of groundwater monitoring wells installed 1  
Number of groundwater samples exceeding 910-1 0

ND Highest concentration of Benzene (µg/l) \_\_\_\_\_  
ND Highest concentration of Toluene (µg/l) \_\_\_\_\_  
-- Highest concentration of Ethylbenzene (µg/l) 760  
-- Highest concentration of Xylene (µg/l) 180  
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?

3 soil borings were advanced adjacent to the previous Rider #1 facilities as background comparison of soil concentrations.

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

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.

Adsorbed soil impacts above COGCC Table 910-1 standards were removed via excavation from 8/13/18 through 8/28/18. Confirmation soil samples indicate impacted soil above COGCC Table 910-1 regulatory limits was removed. Impacted groundwater was removed via pump-truck prior to backfill.

## 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.

Source excavation activities were completed adjacent to petroleum hydrocarbon impacts identified during assessment activities on May 17, 2018. Confirmation soil samples (31) were collected during the excavation to confirm impacted soil above COGCC Table 910-1 was removed. 24 soil samples surround the edges of the excavation confirming the removal of impacted soil. Grab groundwater samples (5) were collected from the base of the excavation in lieu of saturated floor soil samples.

Soil samples were submitted for laboratory analysis of BTEX, naphthalene, GRO, and DRO following modified EPA Methods 8260c and 8015. The grab groundwater samples were submitted for BTEX analysis following EPA Method 8260c.

Monitoring well MW-01R was destroyed during excavation activities. Soil and groundwater samples collected from replacement monitoring well MW-01R2 on October 2-3, 2018, were below COGCC Table 910-1 regulatory limits.

Additional groundwater sampling of monitoring well MW-01R2 will be completed for a minimum of 2 additional quarters to monitor BTEX concentrations on site. Based on laboratory analytical results, NFA can be requested if all samples are observed below applicable COGCC Table 910-1 regulatory limits.

## 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) \_\_\_\_\_ 0

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

No 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

Yes Natural Attenuation

Yes Other Removal \_\_\_\_\_

## 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.

Groundwater samples will continue to be collected from monitoring well MW-01R2 to monitor groundwater concentrations at the site through the 3rd quarter 2019. All groundwater samples were/will be analyzed for BTEX following EPA method 8260C.

## 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? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

No beneficial use

Volume of E&P Waste (solid) in cubic yards 1700

E&P waste (solid) description Visually and laboratory confirmed impacted soil above COGCC Table 910-1 standards

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

Non-COGCC Disposal Facility: Tower Landfill - Commerce City, CO

Volume of E&P Waste (liquid) in barrels 1700

E&P waste (liquid) description impacted groundwater above 910-1 standards

COGCC Disposal Facility ID #, if applicable: 159485

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

## REMEDIATION COMPLETION REPORT

### REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? No

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? Yes

## 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.

Reclamation will be in accordance with COGCC 1000 series rules.

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. 05/17/2018

Actual Spill or Release date, if known. 05/17/2018

## 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. 05/17/2018

## REMEDIAL ACTION DATES

Date of commencement of Remediation. 08/13/2018

Date of completion of Remediation. 08/28/2018

## SITE RECLAMATION DATES

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

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

## OPERATOR COMMENT

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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: 06/27/2019

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: 07/24/2019

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

402088871	FORM 27-SUPPLEMENTAL-SUBMITTED
402088881	REMEDATION PROGRESS REPORT

Total Attach: 2 Files

## **General Comments**

### User Group

### Comment

### Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)