

State of Colorado  
Oil and Gas Conservation Commission

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Document Number:  
401781264  
Receive Date:  
10/02/2018  
Report taken by:  
ROB YOUNG

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: <u>CENTRAL OPERATING INC</u>	Operator No: <u>14855</u>	<b>Phone Numbers</b>
Address: <u>1600 BROADWAY STE 1050</u>	Phone: <u>(303) 8949576</u>	
City: <u>DENVER</u>	State: <u>CO</u>	Mobile: <u>( )</u>
Zip: <u>80202</u>		
Contact Person: <u>Conner Staley</u>	Email: <u>coidenverproduction@gmail.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**  
Remediation Project #: 9799 Initial Form 27 Document #: 200440071

**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 <u>Oil skim pit closure</u>

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

Facility Type: <u>WELL</u>	Facility ID: _____	API #: <u>121-08619</u>	County Name: <u>WASHINGTON</u>
Facility Name: <u>MARICK A-2</u>	Latitude: <u>39.822640</u>	Longitude: <u>-103.184960</u>	
	** correct Lat/Long if needed: Latitude: <u>39.822769</u>	Longitude: <u>-103.188387</u>	
QtrQtr: <u>SENE</u>	Sec: <u>3</u>	Twp: <u>3S</u>	Range: <u>52W</u>
	Meridian: <u>6</u>	Sensitive Area? <u>Yes</u>	

**SITE CONDITIONS**

General soil type - USCS Classifications CL Most Sensitive Adjacent Land Use RANGELAND

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**

None identified

# 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 type="checkbox"/> Produced Water       | <input type="checkbox"/> Workover Fluids             | _____                                  |
| <input checked="" 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
Yes	SOILS	area in and adjacent to pit	visual inspection

## INITIAL ACTION SUMMARY

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

Oil skim tank is in service. Pit is drying.

## 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 ):

Sampling will be conducted in the pit at each wall and the pit bottom. Grab samples will be taken at each wall approximately three feet above the pit floor and one grab sample will be obtained at the center of the pit floor. Each sample will be taken starting at a depth of one foot to eliminate any wind-blown sand that has accumulated over time. Proposed pit sampling locations are show on the attached figure. Samples will be obtained using stainless steel scoop following proper decontamination before and between sampling, and placed in laboratory supplied glass containers. One composite sample will be obtained from the pit floor by collecting soil from four locations within the pit floor and thoroughly mixing before placing in sample containers. One sample will be obtained from an area not affected by oil operations to establish a background value for inorganics.

### 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 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?

Proposed sampling will be 4 side samples of side walls and one pit bottom. (See work plan for details)

# 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.

Skim tank is in service.

## **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.

In order to facilitate the closure of the existing skim pit, soil sampling will be conducted along the pit walls and bottom after contaminated soil is removed. Once the soil analysis indicates the concentrations meet Table 910-1 standards and upon approval from the State, the pit will be backfilled with native soil. Evacuation and transportation of visibly stained soil from the skim pit will be conducted. Once impacted soil has been removed, confirmation soil sampling will be conducted in these areas to determine if the remaining soil meets Table 901-1 standards.

## **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.

No evidence of impacted ground water.

## 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? No \_\_\_\_\_

Do all soils meet Table 910-1 standards? No \_\_\_\_\_

Does the previous reply indicate consideration of background concentrations? \_\_\_\_\_

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? Yes \_\_\_\_\_

Does Groundwater meet Table 910-1 standards? \_\_\_\_\_

Is additional groundwater monitoring to be conducted? \_\_\_\_\_

## 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.

Backfill pit with clean soil.

Is the described reclamation complete? \_\_\_\_\_

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). \_\_\_\_\_

Date of commencement of Site Investigation. 04/06/2016

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

### REMEDIAL ACTION DATES

Date of commencement of Remediation. 04/01/2018

Date of completion of Remediation. 08/31/2018

### SITE RECLAMATION DATES

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

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

### OPERATOR COMMENT

Submitting soil test results and soil sample diagram.

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

Signed: Conner Staley

Title: Engineer

Submit Date: 10/02/2018

Email: coidenverproduction@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: ROB YOUNG

Date: 10/03/2018

Remediation Project Number: 9799

### COA Type

### Description

	Based on the information provided, it appears that the extent of impact has been defined to the north, east and south extent of the excavation. Additional impacted soil should be removed from the base of the excavation and the west wall will need to be excavated as water level in the northern production pit allows.
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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.

<u>Att Doc Num</u>	<u>Name</u>
401781264	FORM 27-SUPPLEMENTAL-SUBMITTED
401781271	ANALYTICAL RESULTS
401781274	SOIL SAMPLE LOCATION MAP

Total Attach: 3 Files

## General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	Provide soil disposal manifests on a supplemental Form 27 along with the base and west wall soil confirmation sampling data as available.	10/03/2018
Environmental	Pumping the water in the northern production pit to the southern production pit would facilitate a timely resolution to this remediation project and should be seriously considered.	10/03/2018

Total: 2 comment(s)