

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
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Receive Date:

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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 ECMC 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.

Closure request is not available for an Initial Site Investigation and Remediation Workplan.

OPERATOR INFORMATION

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 32117 Initial Form 27 Document #: 403540591

PURPOSE INFORMATION

- Rule 913.c.(1): Pit or Cuttings Trench closure.
- Rule 913.c.(2): Buried or partially buried vessel closure, which will be by removal.
- Rule 913.c.(3): Remediation of Spill and Releases pursuant to Rule 912.
- Rule 913.c.(4): Land treatment of Oily Waste pursuant to Rule 905.e.
- Rule 913.c.(5): Closure of Centralized E&P Waste Management Facilities pursuant to Rule 907.h.
- Rule 913.c.(6): Remediation of impacted Groundwater pursuant to Rule 915.e.(3).D, and the contaminant concentrations in Table 915-1.
- Rule 913.c.(7): Investigation and remediation of natural gas in soil or Groundwater.
- Rule 913.c.(8): When requested by the Director due to any potential risk to soil, Groundwater, or surface water.
- Rule 913.c.(9): Decommissioning of Oil and Gas Facilities.
- Rule 913.g: Changes of Operator.
- Rule 915.b: Request to leave elevated inorganics in situ.
- Other: \_\_\_\_\_

SITE INFORMATION

Yes  Multiple Facilities

Facility Type: <u>PIT</u>	Facility ID: <u>117567</u>	API #: _____	County Name: <u>WASHINGTON</u>
Facility Name: <u>MARICK A-1</u>	Latitude: <u>39.823931</u>	Longitude: <u>-103.183490</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
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>

Facility Type: <u>PIT</u>	Facility ID: <u>117568</u>	API #: _____	County Name: <u>WASHINGTON</u>
Facility Name: <u>MARICK A-1</u>	Latitude: <u>39.824248</u>	Longitude: <u>-103.183549</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
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>

Facility Type: LOCATION Facility ID: 317092 API #: County Name: WASHINGTON  
 Facility Name: MARICK-63S52W 3SENE Latitude: 39.822589 Longitude: -103.184897  
 \*\* correct Lat/Long if needed: Latitude: Longitude:  
 QtrQtr: SENE Sec: 3 Twp: 3S Range: 52W Meridian: 6 Sensitive Area? Yes

**SITE CONDITIONS**

General soil type - USCS Classifications ML Most Sensitive Adjacent Land Use Agricultural/crop land  
 Is domestic water well within 1/4 mile? No Is surface water within 1/4 mile? Yes  
 Is groundwater less than 20 feet below ground surface? No

**Other Potential Receptors within 1/4 mile**

Nearby croplands ~40' north of northern pit, creek ~950' south of the southern pit.  
 Relevant depth to groundwater, according to local water well #9056943 to the southeast of the Marick location is 81 feet. The local lithology, according to the NRCS, is Colby-Norka loams, 5 to 9 percent, and Weld silt loam, 0 to 3 percent slope. With medium runoff class, and well drainage class the Operator is requesting the use of Residential SSL's for this project, as a pathway to groundwater at this project is not likely.

**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	NA	Laboratory analysis if encountered
Yes	SOILS	TBD	Laboratory analytical 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.

The Marick Location, and associated Marick A-1 Pits (North and South) and Tank Battery were decommissioned in accordance with ECMC Rule 911.a. and ECMC Rule 913.c.(1). This is the remediation of the onsite pits (#117567 & #117568). Initial sampling was conducted on 3/4/2024. 17 total samples (including 2 background) were collected and submitted to Elevation Diagnostics for laboratory analysis. Visual inspection and field screening of soils beneath the Tanks and the N&S Marick A-1 Pit Walls were done during sampling activities. Floor samples from the N&S Pits were not taken on 3/4/2024 due to water within the Pits. Analytical results for the Pit Walls exceeded ECMC Table 915-1 for SAR, pH, Boron, and EC. All soil samples, including the background samples, exceeded ECMC Table 915-1 levels for Arsenic. The soil samples from beneath the Tanks and Pit Walls were within the Local Clean-Up Level (1.25 x 5.18 = 6.48 mg/kg). Further assessment for Full Table 915-1 analysis was conducted at the floor of the pits on 5/29/2024. Analytical results for the Pit Floors exceeded ECMC Table 915-1 for SAR, pH, Boron, and EC. All soil samples, including the background samples, exceeded ECMC Table 915-1 levels for Arsenic. The soil samples from from the Pit Floors were less than background Arsenic levels. Step out sampling results, taken from 8/28/24, showed clean extent on the north, east and west sides of the pits. Excavation of the pit will begin, at which point additional sampling at the floor and south end of the pit will begin.

**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 ):

With no exceedances in Organics at any point sampled thus far, the Operator is requesting reduced analytical sampling requirements to SSR (pH, EC, SAR, and boron), and Arsenic for all sampling going forward. Additionally, field screening through PID will still be conducted at every sample point, and reported going forward.

No further sampling will be conducted at the Tanks, Separator, or Heater Treater for this investigation.

Step out sampling results, taken from 8/28/24, showed clean extent on the north, east and west sides of the pits. Excavation of the pit will begin, at which point additional sampling at the floor and south end of the pit will begin.

### **Proposed Groundwater Sampling**

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

If groundwater is encountered during facility decommissioning activities, a minimum of one grab sample will be collected as soon as practical. Groundwater samples will be submitted to an accredited laboratory for analysis of BTEX, naphthalene, 1,2,4-tripmethylbenzene, and 1,3,5-trimethylbenzene, using standard methods appropriate for detecting the target analytes in ECMC Table 915-1.

### **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 ):

Operator intends to begin excavation of the pits for this remediation. All contaminated soils will be excavated and hauled to a permitted waste facility. Soil sampling will continue to be done at the southern end of the pit, and at the floor of the pits, until compliance with Table 915-1 is reached.

## **SITE INVESTIGATION REPORT**

### **SAMPLE SUMMARY**

#### **Soil**

Number of soil samples collected 54

Number of soil samples exceeding 915-1 23

Was the areal and vertical extent of soil contamination delineated? No

Approximate areal extent (square feet) 13000

#### **NA / ND**

-- Highest concentration of TPH (mg/kg) 0.718

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

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 4

#### **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 915-1 \_\_\_\_\_

ND Highest concentration of Benzene (µg/l) \_\_\_\_\_

NA Highest concentration of Toluene (µg/l) \_\_\_\_\_

NA Highest concentration of Ethylbenzene (µg/l) \_\_\_\_\_

NA Highest concentration of Xylene (µg/l) \_\_\_\_\_

NA Highest concentration of Methane (mg/l) \_\_\_\_\_

#### **Surface Water**

0 Number of surface water samples collected

\_\_\_\_ Number of surface water samples exceeding 915-1

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?

Two (2) background soil samples were taken at eighteen inches (18") bgs. Soil samples were submitted to Elevation Diagnostics for analysis of Boron, EC, pH, SAR, and Table 915-1 Metals. Additional background samples will be conducted at depth of 4' and 6', and sampled for SSR (pH, SAR, EC, and Boron) + Arsenic.

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?

Continued investigation of the south end of the south pit, and floor of both the north and south pit is required. Operator intends to excavate the pit, removing contaminated soil and disposing of to a permitted waste facility.

## 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.

NA

### 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.

NA

### Soil Remediation Summary

In Situ

Ex Situ

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

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

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

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

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

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

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

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

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

\_\_\_\_\_ 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

### Approved Reporting Schedule:

Quarterly     Semi-Annually     Annually     Other

### Request Alternative Reporting Schedule:

Semi-Annually     Annually     Other

Rule 913.e:

After initial approval of a Form 27, the Operator will provide quarterly update reports in a Supplemental Form 27 to document progress of site investigation and remediation, unless an alternative reporting schedule has been requested by the Operator and approved by the Director. The Director may request a more frequent reporting schedule based on site-specific conditions.

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

## Adequacy of Operator's General Liability Insurance and Financial Assurance

Describe the adequacy of the Operator's general liability insurance and Financial Assurance to fully address the anticipated costs of Remediation, including the estimated remaining cost for this project (below).

If this information has been provided on a Form 27 within the last 12 months, provide the Document Number of that form.

Central Operating, Inc. has complied with General Liability Insurance requirements per Rule 705 and is fully bonded per Rule 702 to fully address the anticipated costs of remediation.

Operator anticipates the remaining cost for this project to be: \$ 10000 \_\_\_\_\_

## WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No \_\_\_\_\_

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 \_\_\_\_\_

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

Non-ECMC Disposal Facility: \_\_\_\_\_

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

E&P waste (liquid) description \_\_\_\_\_

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

Non-ECMC Disposal Facility: \_\_\_\_\_

# REMEDIATION COMPLETION REPORT

## REMEDIATION COMPLETION SUMMARY

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

If YES:

Compliant with Rule 913.h.(1).

Compliant with Rule 913.h.(2).

Compliant with Rule 913.h.(3).

Do all soils meet Table 915-1 standards? \_\_\_\_\_

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

Does Groundwater meet Table 915-1 standards? \_\_\_\_\_

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

Operator shall comply with the ECMC 1000-Series Reclamation Requirements for all impacted and disturbed areas.

## 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.

The site will be reclaimed with ECMC 1000 Series Reclamation Rules per surface owner direction.

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 provide the seed mix? \_\_\_\_\_

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 03/01/2025

Proposed date of completion of Reclamation. 03/01/2026

## IMPLEMENTATION SCHEDULE

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

### PRIOR DATES

Date of Surface Owner notification/consultation, if required. 09/08/2023

Actual Spill or Release date, or date of discovery. \_\_\_\_\_

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/16/2023

Proposed site investigation commencement. \_\_\_\_\_

Proposed completion of site investigation. \_\_\_\_\_

### REMEDIAL ACTION DATES

Proposed start date of Remediation. \_\_\_\_\_

Proposed date of completion of Remediation. \_\_\_\_\_

Per Rule 913.d.(2): Any change from the approved implementation schedule will be requested at least 14 days in advance, and the Operator may not make the change without the Director's approval.

Change from approved implementation schedule per Rule 913.d.(2).

Basis for change in implementation schedule:

\_\_\_\_\_

**OPERATOR COMMENT**

This Form 27 Supplemental is being submitted to meet the quarterly reporting requirements. Analytical results will be submitted when they are received.

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

Signed: Mackenzie Smith \_\_\_\_\_

Title: Staff Engineer \_\_\_\_\_

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

Email: msmith@ardorenvironmental.com \_\_\_\_\_

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with ECMC Rules and applicable orders and is hereby approved.

ECMC Approved: \_\_\_\_\_

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

Remediation Project Number: 32117 \_\_\_\_\_

**COA Type**

**Description**

COA Type	Description
0 COA	

**ATTACHMENT 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**

Att Doc Num	Name

Total Attach: 0 Files

**General Comments**

**User Group**

**Comment**

**Comment Date**

User Group	Comment	Comment Date
		Stamp Upon Approval

Total: 0 comment(s)