

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
403841351  
Receive Date:  
11/01/2024

Report taken by:  
Krystal Heibel

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 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>CM PRODUCTION LLC</u>	Operator No: <u>10352</u>	Phone Numbers Phone: <u>(303) 894-2100</u> Mobile: <u>(303) 905-5341</u>
Address: <u>390 UNION BLVD SUITE 620</u>		
City: <u>LAKEWOOD</u>	State: <u>CO</u>	Zip: <u>80228</u>
Contact Person: <u>James Hix - East OWP EPS</u>	Email: <u>james.hix@state.co.us</u>	

PROJECT, PURPOSE & SITE INFORMATION

**PROJECT INFORMATION**

Remediation Project #: 37787 Initial Form 27 Document #: 403841351

**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>102639</u>	API #: _____	County Name: <u>WASHINGTON</u>
Facility Name: <u>CANNON LEASE</u>	Latitude: <u>40.123239</u>	Longitude: <u>-102.794349</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>24</u>	Twp: <u>2N</u>	Range: <u>49W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: <u>PIT</u>	Facility ID: <u>119208</u>	API #: _____	County Name: <u>WASHINGTON</u>
Facility Name: <u>CANNON 1-24 Evaporation Pit</u>	Latitude: <u>40.123813</u>	Longitude: <u>-102.794364</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESE</u>	Sec: <u>24</u>	Twp: <u>2N</u>	Range: <u>49W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

Facility Type: LOCATION	Facility ID: 317120	API #:	County Name: WASHINGTON
Facility Name: CANNON-62N49W 24NESE (OWP)	Latitude: 40.123647	Longitude: -102.796607	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NESE	Sec: 24	Twp: 2N	Range: 49W Meridian: 6 Sensitive Area? No

### **SITE CONDITIONS**

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Cropland

Is domestic water well within 1/4 mile? Yes 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**

There is a domestic water well (DWR Permit #77387- Receipt #9057720) [SWL = 218 ft, Top of Perf Casing = 305 ft, TD = 335 ft, located ~1220 ft SW]; there an irrigation water well (DWR Permit #13265-F, Receipt #0002503) (Cancelled permit 1964) [Top of Perf Casing = 240 ft, TD = 350 ft located ~1330 ft SE]. A water well permit (DWR Permit #3076-AD) with an application that was denied plotted ~1100 ft northeast. There are no surface waters within 1/4-mile of the site, and no NWI mapped wetlands within 1/4-mile of the site. The site is not located within CPW Mapped HPH. There is a residential building unit (RBU) located approximately 1500 ft south.

# SITE INVESTIGATION PLAN

## TYPE OF WASTE:

- |  |  |  |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste      | <input checked="" 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 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 checked="" type="checkbox"/> Pit Bottoms      |  |
|  | <input type="checkbox"/> Other (as described by EPA) |  |

## DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	GROUNDWATER	UNKNOWN	VISUALLY, FIELD SCREENING, ANALYTICAL
UNDETERMINED	SOILS	UNKNOWN	VISUALLY, FIELD SCREENING, ANALYTICAL

## INITIAL ACTION SUMMARY

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

This oil and gas Location is in the Colorado ECMC (f.k.a. Colorado Oil and Gas Conservation Commission "COGCC") Orphaned Well Program (OWP). Oil was observed on the skim pit in 2008. This initial Form 27 is submitted for site investigation activities performed during decommissioning of Oil and Gas Facilities, specifically sampling activities for closure of Pit #102639 and Pit #119208. These unlined earthen production pits were used to store produced water. Soil samples will be collected and analyzed in accordance with Colorado ECMC 900 Series Rules. A Form 19 for Spill/Release #2147784 was submitted on 02/21/2014 for a flowline leak at the tank battery manifold/knockout shed.

## 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 ):

Grab soil samples will be collected from areas most likely to exhibit E&P Waste impacts. Soil samples will be submitted for analysis of Table 915-1 parameters including organic compounds (TPH ranges C6-C36; BTEX; 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Naphthalene, PAH) and inorganic compounds (metals, soil suitability for reclamation).

### Proposed Groundwater Sampling

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

Groundwater samples are not expected to be collected as part of this investigation. If encountered in sufficient quantity to enable sample collection, a grab groundwater sample or samples will be collected and submitted for analysis of organic compounds (BTEX; Naphthalene; 1,2,4-Trimethylbenzene; 1,3,5-Trimethylbenzene) and inorganic parameters (total dissolved solids (TDS), chloride ion, sulfate ion).

### Proposed Surface Water Sampling

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

Surface water samples are not expected to be collected as part of this investigation.

## Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan ( summary ):

No additional alternative investigative actions are expected to be conducted as part of this site investigation.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

Soil

NA / ND

Number of soil samples collected 0

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

Number of soil samples exceeding 915-1 \_\_\_\_\_

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

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

BTEX > 915-1 \_\_\_\_\_

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

Vertical Extent > 915-1 (in feet) \_\_\_\_\_

**Groundwater**

Number of groundwater samples collected 0

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

Was extent of groundwater contaminated delineated? No

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

Depth to groundwater (below ground surface, in feet) \_\_\_\_\_

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

Number of groundwater monitoring wells installed \_\_\_\_\_

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

Number of groundwater samples exceeding 915-1 \_\_\_\_\_

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?

\_\_\_\_\_

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.

If E&P Waste impacts are encountered during decommissioning of Oil and Gas Facilities, approximately 10 cubic yards impacted soils will be excavated, temporarily stockpiled on location, and hauled to a commercial disposal facility. Site investigation will be performed in accordance with 900 Series Rules and Rule 911.c - Pit Closure guidance document (July 19, 2021)

**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.

If E&P Waste impacted soils are encountered, approximately 10 cubic yards of E&P Waste impacted soils will be excavated and removed for offsite disposal at a commercial disposal facility. If the horizontal and vertical extent of the E&P Waste impacts cannot be defined or removed during this initial action, then additional site investigation and remediation will be performed at a later date under an approved supplemental Form 27. Site data will be evaluated and remediation technologies implemented to meet Table 915-1 soil residential screening levels, protection of groundwater screening levels, or Table 915-1 groundwater and WQCC Regulation 41 numeric and narrative levels as applicable to site conditions.

**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 ECOM Facility ID # \_\_\_\_\_

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

\_\_\_\_\_ 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

### Approved Reporting Schedule:

Quarterly     Semi-Annually     Annually     Other

Supplemental Form 27 will be submitted within 90 days of receipt of analytical results.

### Request Alternative Reporting Schedule:

Semi-Annually     Annually     Other

The ECMC OWP requests an Annual Reporting Schedule.

### 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.

The CM Production LLC - Cannon #1-24 (OWP) oil and gas well was plugged and abandoned (PA) on 07/21/2020. The CANNON-62N49W 24NESE (Location ID #317120) is in the ECMC Orphaned Well Program. The former Operator's bond/surety, state funds, federal funds, or other funding source will be used to investigate, remediate, and reclaim the former production pits.

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

## 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 \_\_\_\_\_

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: \_\_\_\_\_

# 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 Colorado ECMC OWP will reclaim this oil and gas location in accordance with 1000 Series Rules including grading/recontouring of disturbed areas. Reclamation will be performed under a separate scope of work. Final reclamation will be conducted per ECMC 1000 Series Rules and prioritized based on OWP ranking, project funding, and staff availability. The reclamation scope will include a plan to address and avoid any effect on reclamation from Table 915-1 inorganic and soil suitability for reclamation parameters.

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 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. \_\_\_\_\_

Proposed date of completion of Reclamation. \_\_\_\_\_

## 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. 03/18/2018

Actual Spill or Release date, or date of discovery. 06/09/2008

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/17/2019

Proposed site investigation commencement. 07/19/2025

Proposed completion of site investigation. 11/01/2027

### 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**

The former CM PRODUCTION LLC - 10352 CANNON #1-24 (OWP) oil and gas well (API #05-121-08993) and CANNON-62N49W 24NESE (Location ID# 317120) are in the ECMC Orphaned Well Program. The Cannon #1-24 (OWP) well was plugged and abandoned (PA) on 07/21/2020. The off-location flowline was abandoned in place following discussion with the surface owner. This initial Form 27 presents the site investigation and remediation workplan for decommissioning two earthen production pits (Pit #119208 and Pit #102639) at the location west of County Road B and north of County Road 38. Oil was observed on the skim pit in September 2008. Spill/Release #2147784 resulted from a flowline releases discovered on 02/15/2014 at the adjacent tank battery. Soil samples will be collected from the base and sidewalls once the pits have been dewatered and have sufficiently dried to allow access. Soil samples will be collected beneath the former tank battery, vertical separator, historic spill/release locations and production/evaporation pits. Site-specific background soil samples will be collected off-location from undisturbed areas to the extent possible. Soil samples will be submitted to a third-party environmental laboratory for submitted for analysis of full Table 915-1 parameters to document site conditions and assess the need for further investigation and remediation. Background soil samples will be submitted for Table 915-1 metals and soil suitability for reclamation parameters to compare with confirmation soil sample results.

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

Signed: James Hix

Title: East OWP EPS

Submit Date: 11/01/2024

Email: james.hix@state.co.us

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: Krystal Heibel

Date: 11/07/2024

Remediation Project Number: 37787

**COA Type****Description**

	OWP shall conduct a closure investigation in accordance with Rule 911.c. Pit Closure Guidance Document.
	OWP will collect and submit for laboratory analysis a soil sample collected from the areas most likely to have been impacted during the operational life of the flowline. These areas include, but are not limited to: where Flowlines connect to the wellhead, surface equipment, risers, valves, or manifolds; where Flowlines bend or were repaired in the past and at joints and hammer unions; where Flowlines connect to Flowlines or equipment of different material; and where Flowlines crossed drainages or surface water or are in contact with shallow groundwater.
	OWP shall attach Form 19 Document #2147784 under the Related Forms within the next submittal.
3 COAs	

**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.

<b>Att Doc Num</b>	<b>Name</b>
403841351	FORM 27-INITIAL-SUBMITTED
403841770	MAP
403841955	CORRESPONDENCE
403979836	SITE MAP

Total Attach: 4 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
		Stamp Upon Approval

Total: 0 comment(s)