

State of Colorado  
Energy & Carbon Management Commission

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Document Number:  
404374073  
Receive Date:  
10/02/2025  
Report taken by:  
Chris Sanchez

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: CINNAMON CREEK OIL & GAS INC	Operator No: 17210	<b>Phone Numbers</b>
Address: P O BOX 544		Phone: (719) 671-3787
City: WALSH State: CO Zip: 81090		Mobile: ( )
Contact Person: James Javernick	Email: javernick1@gmail.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 42875 Initial Form 27 Document #: 404374073

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: WELL	Facility ID: _____	API #: 043-40038	County Name: FREMONT
Facility Name: SPANGLER 1	Latitude: 38.418560	Longitude: -105.182170	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 2	Twp: 19S	Range: 70W Meridian: 6 Sensitive Area? Yes

Facility Type: LOCATION	Facility ID: 322278	API #: _____	County Name: FREMONT
Facility Name: SPANGLER-619S70W 2SESE	Latitude: 38.418560	Longitude: -105.182170	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SESE	Sec: 2	Twp: 19S	Range: 70W Meridian: 6 Sensitive Area? Yes

## SITE CONDITIONS

General soil type - USCS Classifications SC

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? No

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

Soil Type 16 - Cascajo very gravelly sandy loam, 2 to 40 percent slopes

The location is within an HPH Mule Deer Severe Winter Range.

There are approximately 4 occupied buildings within the 1/4 mile to the north and northwest. There are approximately 13 RBUs within the 1/4 mile to the east, west, and southwest.

The Minnequa Canal is ~470' to the east. The Floodplains is 1230' to the east.

Nearest water well ~230-ft south, Permit No.122984-; Residential well was constructed, depth to water 54-ft. The next closest water well ~400-ft southwest, Permit No.122983-; Residential well was constructed, depth to water 54-ft. The water well ~475-ft northwest, Permit No.25898-; Residential well was constructed, depth to water 45-ft.

# 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 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 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	TBD	Lab analysis, if encountered
UNDETERMINED	SOILS	TBD	Lab analysis

## 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 Spangler #1 wellhead and associated production facility location will be assessed per ECMC Rule 911.a., soil and groundwater (if present) samples will be collected and submitted for laboratory analysis to determine if concentrations and values are in compliance with ECMC Table 915-1. Visual inspection and field screening of soils around the WH will be conducted during sampling activities. The Topographic Site Location Map showing the geographic setting of the site is provided.

## 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 ):

Following the wellhead cut and cap operations, soil will be field screened at the wellhead excavation. Samples will be collected if indications of impacts to soil or groundwater are present. If impacted soils are encountered, a soil sample will be collected from the area exhibiting the highest degree of impact based on visual, olfactory, and/or field screening observations. In the absence of apparent impacts, a soil sample will be collected from the base of the excavation adjacent to the wellhead. Soil samples will be submitted to an accredited laboratory for analysis using standard methods appropriate for detecting the target analytes in ECMC Table 915-1. Proposed soil sample and screening locations are provided.

### 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. Groundwater samples will be submitted to an accredited laboratory for analysis of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, 1,2,4-trimethylbenzene, 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 ):

# 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.

N/A \_\_\_\_\_

**REMEDIAL ACTION 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.

N/A \_\_\_\_\_

**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    90 days after receipt of analytical

### 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.

Cinnamon Creek Oil & Gas 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. This is the initial assessment for closure the costs represent the estimated cost for labor and analytical samples.

Operator anticipates the remaining cost for this project to be: \$ 5000

## 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 site will be reclaimed in accordance with ECMC 1000 Series Reclamation Rules or per surface owner direction.

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. 03/01/2026

Proposed date of completion of Reclamation. 08/01/2026

## 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. \_\_\_\_\_

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 12/01/2025

Proposed site investigation commencement. 12/01/2025

Proposed completion of site investigation. 03/01/2026

### 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**

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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: Amber Barnett

Title: Compliance Specialist

Submit Date: 10/02/2025

Email: abarnett@ardorevironmental.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: Chris Sanchez

Date: 11/03/2025

Remediation Project Number: 42875

**COA Type****Description**

	Background sampling locations should be sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, and should be obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples.
	Operator shall adhere to Protection of Groundwater Soil Screening Levels
	If groundwater is encountered, the Operator shall sample for Inorganic Parameters (total dissolved solids, sulfate, chloride) in addition to the Organic Compounds listed
	Operator shall collect confirmation soil samples as described in the Rule 915.e.2 Guidance Document. Operator will analyze soil samples for TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)).
4 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.

**Att Doc Num****Name**

404374073	INVESTIGATION/REMEDATION WORKPLAN (INITIAL)
404374906	SITE MAP
404378321	SOIL SAMPLE LOCATION MAP
404421394	FORM 27-INITIAL-SUBMITTED

Total Attach: 4 Files

**General Comments****User Group****Comment****Comment Date**

		Stamp Upon Approval
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Total: 0 comment(s)