

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Krystal Heibel

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 ECOM 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: WESTERN OPERATING COMPANY	Operator No: 95620	Phone Numbers Phone: (303) 726-8650 Mobile: ()
Address: 1165 DELAWARE STREET #200		
City: DENVER	State: CO	Zip: 80204
Contact Person: Steve James	Email: steve@westernoperating.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 26893 Initial Form 27 Document #: 403124055

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 #: 075-06999	County Name: LOGAN
Facility Name: ROBERTS 1	Latitude: 40.904210	Longitude: -103.342430	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNW	Sec: 30	Twp: 11N	Range: 53W Meridian: 6 Sensitive Area? No

Facility Type: PIT	Facility ID: 100315	API #: _____	County Name: LOGAN
Facility Name: ROBERTS 1	Latitude: 40.904319	Longitude: -103.342207	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: NWNW	Sec: 30	Twp: 11N	Range: 53W Meridian: 6 Sensitive Area? No

Facility Type: LOCATION	Facility ID: 312230	API #:	County Name: LOGAN
Facility Name: ROBERTS-611N53W 30NWNW	Latitude: 40.904210	Longitude: -103.342430	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: NWNW	Sec: 30	Twp: 11N	Range: 53W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

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

Is domestic water well within 1/4 mile? No 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

The Robert 1 wellhead is surrounded by vacant land in all directions. There are no residences within a quarter mile of the wellhead. There is one residential groundwater well permit (45215) mapped 0.45 miles northeast of the wellhead and reported a static water level of 313 feet below ground surface at the time of completion. There is surface water mapped within a quarter mile of the Site. There are no additional sensitive areas or wildlife habitats identified within a quarter mile of the wellhead.

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 checked="" 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	SOILS	No confirmed impacts	Investigation ongoing

INITIAL ACTION SUMMARY

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

Western Operating proposes to plug and abandon (P&A) the Roberts 1 well and decommission the related tank battery facility. Cut and cap activities and removal of production facility equipment are planned to commence approximately 10 days after P&A activities are complete. Western Operating will conduct site investigation activities, field screening, and confirmation soil sampling activities during closure of each qualifying production equipment type in accordance with COGCC 900 Series Rules. Discreet soil samples and, if necessary, groundwater samples, will be collected and analyzed pursuant to Rule 915, following the general sample collection guidance in Rule 915.e.(2) and Rule 915.e.(3). Western Operating will completely remove flowlines with landowner approval and will conduct flowline abandonment activities in accordance with COGCC 1105 Series Rules. Pit closure samples will be collected in accordance with Rule 911.c. Pit Closure Guidance document. All waste generated during the closure activities will be managed and disposed of in accordance with Rules 905 and 906. See the attached Figure 1 for an illustration of the location of the Site.

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):

A minimum of 13 discreet soil samples will be collected for field screening from qualifying production equipment. At least seven samples will be submitted to accredited laboratory for analysis of TPH (C6-C36), Table 915-1 Organic Compounds in Soil, Table 915-1 metals, and Table 915-1 Soil Suitability for Reclamation (full Table 915-1). Discrete soil samples will be field screened approximately every 250 feet (ft) along the removed flowline path and submitted if impacts are suspected. Samples collected from areas most likely to have been impacted during the life of the flowline, in accordance with COGCC Operator Guidance Rule 911.a.(4), will be submitted for analysis of full Table 915-1 soil constituents. Flowline confirmation samples may be collected jointly with required qualifying production equipment samples.

Proposed Groundwater Sampling

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

If groundwater is encountered during decommissioning activities, a grab sample will be collected as soon as practical. If contaminated soil is in contact with groundwater or if free product/hydrocarbon sheen are observed, the release will be reported in accordance with Rule 912.b. Groundwater samples will be submitted for laboratory analysis of Table 915-1 Organic Compounds in Groundwater and Groundwater Inorganic Parameters.

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):

A minimum of eight soil samples will be collected from the earthen pit. A five-point composite sample will be collected from each of the four berms and submitted for laboratory analysis of full Table 915-1 soil constituents. Grab samples from the floor of the pit will be collected from approximately 1 ft and 3 ft below ground surface (bgs) at four discrete locations. Shallow floor samples will be submitted for full Table 915-1 soil analysis. At least one deeper floor sample will be submitted for analysis of the full Table 915-1 soil constituents. Additionally, confirmation soil samples will be collected from the center of an area identified in historical imagery as a potential earthen pit. Grab samples will be collected at approximately 1ft and 3ft bgs and both submitted for full Table 915-1 soil analysis. See the attached Figure 2 Proposed Soil Sampling Location Diagram.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 2
Number of soil samples exceeding 915-1 1
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 177
-- Highest concentration of SAR 1.09
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 4

Groundwater

Number of groundwater samples collected 0
Was extent of groundwater contaminated delineated? Yes
Depth to groundwater (below ground surface, in feet) _____
Number of groundwater monitoring wells installed _____
Number of groundwater samples exceeding 915-1 _____

____ 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
0 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?

Three background samples have been collected from various depths at one soil boring location undisturbed by oil and gas activities and submitted for analysis of pH, arsenic, barium, and cadmium. Analytical results demonstrate that pH, arsenic, barium, and cadmium concentrations above Table 915 standards exist naturally at this location. Additional background sampling will be conducted to determine if pH and cadmium levels seen in confirmation soil samples are representative of background levels.

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?

Additional background samples may be collected to characterize native levels of pH and cadmium at this Site. .

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.

If a suspected release is identified through soil screening and/or laboratory analysis, impacted soil will be segregated for proper off site disposal, and the lateral and vertical extent of impacts will be determined with appropriate confirmation soil sampling. If all source material cannot be removed by excavation, alternative plans will be proposed in subsequent Form 27 supplemental.

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.

As needed, a remediation or closure plan will be developed based on the results of the confirmation soil sampling results and submitted to ECOM via Supplemental Form 27.

Soil Remediation Summary

In Situ Ex Situ

_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

_____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____
_____ Name of Licensed Disposal Facility or ECMC 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.

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.

Reclamation activities will be completed in accordance with 1000 Series Rules, in collaboration with the landowner.

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. 01/24/2022

Actual Spill or Release date, or date of discovery. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 10/31/2023

Proposed site investigation commencement. 02/03/2025

Proposed completion of site investigation. 12/31/2025

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:

Proposed site investigation dates changed due to weather constraints and contractor scheduling.

OPERATOR COMMENT

As noted in the attached secured laboratory analytical report 2501290R2, laboratory analysis using EPA 8260B Methods for samples collected on 1/17/2025 were performed outside of EPA recommended hold-times due to laboratory backlog. The attached revised laboratory report includes appropriate data qualifiers in accordance with EPA SW-846 Chapter 4, Table 4-1 and Method 5035A, Section 8.3, which allow for flexibility in holding time exceedances when preservation, storage, and analytical quality control (QC) demonstrate that volatile organic compound (VOC) concentrations have not been adversely affected. Entrada Consulting Group and Summit Scientific confirms that affected samples were properly preserved (per 5035A protocols), stored under compliant conditions, and analyzed using EPA Methods 8260 with all associated batch QC including method blanks, laboratory control samples (LCS), matrix spikes (MS), and surrogates demonstrating acceptance criteria outlined in the respective methods. These QC results, included in the laboratory report, demonstrate that the data are scientifically valid, technically defensible, and suitable for regulatory use. Western Operating and Summit Scientific respectfully request ECMC review data validity with consideration of the provisions outlined in SW-846 Chapter 4 and Method 5035A, which recognize the importance of data quality and preservation over rigid holding time limits in certain cases.

It was previously reported via email to ECMC that EPA Method 8015 analysis for DRO and ORO was also analyzed outside of recommended hold times for this laboratory report. After further review of Table 4-1 recommended hold times, it was concluded that 8015 is a semi-volatile with the same recommended hold time as EPA 8270 for PAHs and therefor was not prepared or analyzed outside of EPA recommended hold times. The attached laboratory report correctly notes that only EPA Method 8260B was conducted outside of recommended hold times.

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

Signed: Ryan Finley

Title: Senior Project Geologist

Submit Date: 09/26/2025

Email: rfinley@entradainc.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: Krystal Heibel

Date: 02/16/2026

Remediation Project Number: 26893

COA Type**Description**

	COAs within Doc# 404489755 apply.
1 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**

404360017	FORM 27-SUPPLEMENTAL-SUBMITTED
404360037	SOIL SAMPLE LOCATION MAP
404370465	ANALYTICAL DATA SUMMARY TABLE(S)
404370466	LABORATORY ANALYTICAL REPORT

Total Attach: 4 Files

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

Environmental	"It was previously reported via email to ECMC that EPA Method 8015 analysis for DRO and ORO was also analyzed outside of recommended hold times for this laboratory report. After further review of Table 4-1 recommended hold times, it was concluded that 8015 is a semi-volatile with the same recommended hold time as EPA 8270 for PAHs and therefor was not prepared or analyzed outside of EPA recommended hold times. The attached laboratory report correctly notes that only EPA Method 8260B was conducted outside of recommended hold times."	02/16/2026
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Total: 1 comment(s)