

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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Document Number:

404131964

Receive Date:

03/19/2025

Report taken by:

Kyle Waggoner

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
Address: 1165 DELAWARE STREET #200		Phone: (303) 726-8650
City: DENVER	State: CO	Zip: 80204
Contact Person: Steve James	Email: steve@westernoperating.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 27155 Initial Form 27 Document #: 403273080

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: PIT	Facility ID: 100310	API #:	County Name: LOGAN
Facility Name: PROPST 1A	Latitude: 40.892996	Longitude: -103.264618	
** correct Lat/Long if needed: Latitude: 40.892798		Longitude: -103.264685	
QtrQtr: SWSW	Sec: 26	Twp: 11N	Range: 53W Meridian: 6 Sensitive Area? Yes

Facility Type: PIT	Facility ID: 256304	API #:	County Name: LOGAN
Facility Name: PROPST 1-A	Latitude: 40.892798	Longitude: -103.264685	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SWSW	Sec: 26	Twp: 11N	Range: 53W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use Range

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

National Wetlands Inventory shows unnamed ephemeral riverine 250 feet west of the SW corner of Pit. The nearest water wells permitted with the Colorado Division of Water Resources (DWR) are located approximately 0.5 miles south-southwest of the site (DWR Permit Receipt # 9045707) and 0.7 miles northwest of the site (DWR Permit Receipt # 9044315). The DWR well constructions logs report groundwater depths of 70 feet below ground surface (bgs) for DWR Permit Receipt # 9045707 (constructed in 1981) and 80 feet bgs for DWR Permit Receipt # 9044315 (constructed in 1965).

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	SOILS	Unknown	Pending assessment

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 decommission and close the unlined Propst 1A pit. Downgradient salt impacts from the pit were identified by the ECMC and are being addressed under Remediation Project 27153. Remaining produced water within the pit has been removed and disposed into the nearby Propst 1 disposal well and/or allowed to evaporate, and was documented in Field Inspection Report 709100441. Prior to conducting assessment of the pit, as described below in Proposed Soil Sampling section, the pit berms and floor material will be removed for disposal as it is suspected that earthen containment soils have been impacted during the operational lifetime of the pit. Pit berms will be removed to the native grade surface level. Soils within the pit floor will initially be excavated no deeper than 3ft-bgs for disposal of pit floor materials. Assessment and confirmation soil sampling will occur following the removal of the earthen berms and floor of the pit. Please see attached Figure 1 General Location Map, Figure 2 Proposed Soil Sample Locations, and Figure 3 Proposed Haul Truck Route for Disposal.

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):

Soil borings will be conducted at a minimum of 3 locations within the pit floor area. One soil boring will be conducted at the effluent discharge area, and two borings will be within the pit floor area. Soils samples will be collected for laboratory analysis at 0.5 ft and 3 ft-bgs. One soil boring will be advanced until hand auger refusal is met, and a soil sample will be collected for laboratory analysis from the total depth; bedrock is expected at 8-15 ft-bgs.

Additionally, seven soil samples will be collected from native surface soils underneath the pit berms for submittal to laboratory analysis.

A total of 14 grab confirmation soil samples will be collected for laboratory analysis and pit removal assessment. All soil samples will be submitted for the complete Table 915-1 list of analytes in soils. See Figure 2 for proposed soil sample locations

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 915-1

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

Approximate areal extent (square feet)

NA / ND

Highest concentration of TPH (mg/kg)

Highest concentration of SAR

BTEX > 915-1

Vertical Extent > 915-1 (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 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

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?

Downgradient salt impacts from the pit were identified by the ECMC and are being addressed under Remediation Project 27153.

☒ Were background samples collected as part of this site investigation?

A total of 16 background soil samples were collected from outside the release area reported under Remediation Project 27153 from depths ranging from 0.5 feet below ground surface (ft-bgs) to 12 ft-bgs. Laboratory analysis demonstrates that pH, arsenic, barium, and selenium concentrations exist naturally at this location above ECMC Table 915-1 Soil Screening Limits. The highest reported background level for pH (8.46) was used to establish background soil screening limits. The highest reported background levels for arsenic, barium, and selenium were multiplied by 1.25x to establish background soil screening limits of 7.25 mg/kg, 426 mg/kg and 0.325 mg/kg respectively.

☐ 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**

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.

Western Operating proposes to remove the pit berms and floor soil materials for disposal, as it is suspected the earthen containment soils were impacted by E&P waste during operational lifespan. Pit berms will be removed to the native grade surface level. Soils within the pit floor will initially be excavated no deeper than 3ft-bgs for disposal of pit floor materials. If impacts are identified within native soils beneath the pit earthen containment, additional remediation or an alternative plan will be proposed via Form 27 Supplemental. The Propst 1 pit removal project area will be confined to the footprint of the historical pit. Remediation of identified impacts outside of the pit footprint are addressed under Remediation Project 27153.

From the site, it is proposed that haul trucks will travel 1.07 miles north along the access road to County Road 66 and transport the material to Pawnee Waste, LLC Landfill for disposal. Trucks will not drive off of established roads at the location, except at the "triangle" of grass near the gated entrance to the Propst sites (see attached Figure 3). Trucks may have to drive into the grass triangle in the area in order to clear the fence and gate while exiting the location. No other areas will haul trucks need to drive off of established roads, including at the project site. Impacted stockpiles of soils will be relocated to nearer the access road to be placed in disposal haul trucks - trucks will NOT drive into the historical release area to receive stockpiled soils. Please see attached Figure 3 Proposed Haul Truck route map for depictions of the discussed route. It is estimate that two to four trucks will be used to transport material at maximum on a daily basis. The proposed schedule may vary based on contractor availability and weather

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.

No additional excavation or remedial action will take place at the location until an approved remedial work plan or variance is in place with ECMC.

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 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.

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.

Western Operating has \$7,000,000 in liability insurance and is currently adequately bonded.

Operator anticipates the remaining cost for this project to be: \$ 100000

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:

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.

Following remediation, the pit will be reclaimed in accordance with COGCC 1000 series rules.

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. 05/13/2024

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/01/2023

Proposed site investigation commencement. 08/01/2025

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 as a quarterly update, to propose a pit removal action plan and soil sampling plan for ECMC review, and to propose a waste management plan to transport the pit berms and floor soils for disposal. Please see Figure 1 General Location Map, Figure 2 Proposed Pit Confirmation Soil Sample Locations, and Figure 3 Proposed Haul Truck Route.

In response to Conditions of Approval outlined in Form 27 document 403273080 and Conditions of Denial in Form 27 document 403795515, Western Operating has compiled the following responses:

-Soil sample has been proposed in Figure 2 at the effluent discharge area

-Liquid waste from the Propst 1-A pit was either disposed in the nearby Propst 1 disposal well or allowed to evaporate naturally. No solid or liquid waste has been removed from this site.

-Following onsite discussions with ECMC representative Alex Fisher and Entrada representative Ryan Finley, Western Operating respectfully proposes to remove pit earthen berm and floor soils for disposal, as it is suspected the earthen containment soils were impacted by E&P waste during operational lifespan. Soil assessment will be conducted within native soils underneath the pit earthen equipment.

-Soil borings conducted during the related Propst 1 Historical Release investigation surrounding the Propst 1-A pit, well-cemented sandstone bedrock is anticipated at 8-15ft-bgs at this location. Nearby DWR groundwater permits 9045707 and 9044315 report groundwater at 70-80ft-bgs underneath bedrock. Based on this, a groundwater monitoring well can not be installed without drilling through confining layers, and there is no pathway to groundwater from surface at this location.

-Additional COAs have been addressed in the body of this Form (ex: implementation schedule, General Liability Insurance, etc.)

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: 03/19/2025

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: ALEX FISCHER

Date: 04/01/2025

Remediation Project Number: 27155

COA Type

Description

	Operator shall attach a signed letter from the surface owner demonstrating that the surface owner accepts the surface disturbance caused by the truck haul route through the triangular area south of the entrance gate.
	Operator shall agree that any additional disturbance that occurs outside of the established access roads and/or location will require reclamation activities per the 1000-Series Rules. Figure 3, attached to this submittal, illustrates the haul route for trucks navigating through the triangular area just south of the entrance gate.
	ECMC approves the proposed pit floor soil sample locations as illustrated in Figure 2. "Soil sample has been proposed in Figure 2 at the effluent discharge area" As stated in Doc# 403273080, "Additional soil samples should be collected where effluent is discharged into the pit. A deep soil boring shall be advance and samples collected at the lowest portion of the pit."
	Per 403273080, It is stated, "Hand auger soil borings will be advanced at 5 locations throughout the pit bottom." Operator may want to take into consideration using direct-push technology or other to collect continuous representative soil samples as opposed to hand auger borings. "Soil borings conducted during the related Propst 1 Historical Release investigation surrounding the Propst 1-A pit, well-cemented sandstone bedrock is anticipated at 8-15ft-bgs at this location. Nearby DWR groundwater permits 9045707 and 9044315 report groundwater at 70-80ft-bgs underneath bedrock. Based on this, a groundwater monitoring well can not be installed without drilling through confining layers, and there is no pathway to groundwater from surface at this location."
	Operator shall conduct a closure investigation in accordance with Rule 911.c. Pit Closure Guidance Document.
	In accordance with Rule 913.e.(3), Operator will adopt a quarterly reporting schedule (every 90 days). ECMC selected Quarterly under Remediation Progress Update.

	Operator shall comply with 900 Series Rules. Determine vertical and horizontal extent of spill to establish points of compliance and conduct soil analysis with discrete sampling and photo documentation to provide in future Supplemental Form 27s.
7 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.

<u>Att Doc Num</u>	<u>Name</u>
404131964	FORM 27-SUPPLEMENTAL-SUBMITTED
404132905	MAP
404132908	SITE MAP
404133012	SITE MAP

Total Attach: 4 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	As stated in Doc#403273080, it is stated, "Hand auger soil borings will be advanced at 5 locations throughout the pit bottom." Operator may want to take into consideration using direct-push technology or other to collect continuous representative soil samples as opposed to hand auger borings. "Soil borings will be conducted at a minimum of 3 locations within the pit floor area. One soil boring will be conducted at the effluent discharge area, and two borings will be within the pit floor area. Soils samples will be collected for laboratory analysis at 0.5 ft and 3 ft-bgs. One soil boring will be advanced until hand auger refusal is met, and a soil sample will be collected for laboratory analysis from the total depth; bedrock is expected at 8-15 ft-bgs."	03/21/2025
Environmental	Under Project, Purpose, & Site Information Tab, COGCC Staff changed Multiple Facilities from NO to YES to include Pit Facility ID: 100310 and 100316 as these two additional pits will be closed under this F27.	03/21/2025
Environmental	FEE/FEE National Wetlands Inventory shows Riverine 120 feet west from impacted vegetation and 250 feet west of the SW corner of Pit Facility ID: 256304	03/21/2025

Total: 3 comment(s)