

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

403727953

Receive Date:

03/21/2024

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 #: 29344 Initial Form 27 Document #: 403366363

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 #: 121-10622	County Name: WASHINGTON
Facility Name: KALCEVIC FARMS 24-17	Latitude: 39.872550	Longitude: -103.455010	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: S2SW	Sec: 17	Twp: 2S	Range: 54W Meridian: 6 Sensitive Area? No

Facility Type: LOCATION	Facility ID: 317336	API #: _____	County Name: WASHINGTON
Facility Name: KALCEVIC FARMS-62S54W 17S2SW	Latitude: 39.872557	Longitude: -103.455116	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: S2SW	Sec: 17	Twp: 2S	Range: 54W 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? 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

The Kalcevic Farms #24-17 wellhead is surrounded by cropland in all directions. There are no residences within a quarter mile of the wellhead. There are no groundwater well permits mapped within a quarter mile of the wellhead. Groundwater depth is unknown, but groundwater permit 36568, approximately 0.31 miles southwest of the wellhead, reported a static water level of 24 feet below ground surface (ft-bgs) at the time of completion. There is an unnamed ephemeral drainage mapped approximately 0.22 mile west 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:

- ☒ 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
No	SOILS	No known impacts	Laboratory 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.

Western Operating proposes to plug and abandon (P&A) the Kalcevic Farms #24-17 well. Plugging and abandonment of the well will occur in Summer 2023. Cut and cap activities are planned to commence and be completed 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 in accordance with COGCC 900 Series Rules. Discreet soil samples and, if necessary, one groundwater sample 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). 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 a topographic location map.

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 five discreet soil samples will be collected for field screening from the excavation to cut and cap the wellhead. At least two of the samples will be submitted to an 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 (Electrical conductivity, Sodium adsorption ratio, and pH by saturated paste method, boron (hot water soluble)). See the attached Figure 2 for an illustration of proposed discreet soil sample locations for field screening and for laboratory analysis. A minimum of six discreet soil samples will be collected for field screening from along the flowline path. At least 3 samples will be submitted for Table 915-1 soil constituents, one each from under start- and end-point risers and one sample from the crossing point of an unnamed ephemeral drainage. Wellhead-end riser sample may be combined with the wellhead sidewall analytical sample.

Proposed Groundwater Sampling

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

If encountered, at least one groundwater sample will be collected for analysis of Table 915-1 Groundwater Inorganic Parameters (total dissolved solids, sulfate, chloride) and organic compounds in groundwater.

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 4

Number of soil samples exceeding 915-1 2

Was the areal and vertical extent of soil contamination delineated? Yes

Approximate areal extent (square feet) 0

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 1.46

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 6

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?

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

Four site-specific background soil samples were collected from 2 background soil borings (BKG01-BKG02) from approximately 4 and 6 feet below ground surface (ft-bgs) in areas away from oil and gas infrastructure and submitted for analysis of EC, SAR, pH, boron, and 915 metals by ECMC approved methods.

☐ 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.

No impacted soils were discovered during wellhead cut and cap activities or flowline removal. Based on site investigation activities and laboratory analytical results of confirmation soil samples collected from the wellhead excavation floor and wellhead flowline riser and flowline, a removal of soil is not needed.

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.

Based on site investigation activities and laboratory analytical results for confirmation soil samples collected from the wellhead excavation floor and sidewall and flowline, a remediation plan is not needed.

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
_____ 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.

Groundwater was not encountered during excavation of the wellhead for cut and cap activities or flowline removal.

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 \$5,000,000 in liability insurance and is currently adequately bonded.

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

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? Yes ☐

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? Yes ☐

Does the previous reply indicate consideration of background concentrations? Yes ☐

Does Groundwater meet Table 915-1 standards? Yes ☐

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 facility closure activities, the location was backfilled, compacted, and re-contoured to match pre-existing conditions. The location will be reclaimed in accordance with the ECMC 1000 series.

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. 06/19/2023

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 05/11/2023

Proposed site investigation commencement. 02/01/2024

Proposed completion of site investigation. 02/01/2024

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

Facility closure activities and confirmation soil sampling was conducted at the Kalcevic Farms #24-17 Wellhead and flowline on February 1, 2024. Four discrete soil samples were collected in each cardinal direction from the wellhead excavation sidewalls at approximately 4 ft-bgs and field screened using a photo-ionization detector (PID) calibrated with 100 parts per million (ppm) isobutylene gas. All soil samples screened with a PID at the wellhead resulted in readings of 0.0 ppm. 5 locations along the flowline were field screened at 250ft intervals with PID readings of 0.0 ppm and no suspected impacts. The wellhead line was completely removed from the subsurface and reported under Form 44 Document 403650916

A total of 4 facility closure confirmation soil samples were submitted for laboratory analysis. Soil Samples were collected from the floor of the wellhead excavation (WH01@6), from a sidewall adjacent to the wellhead flowline riser (FLR01@4), from the flowline endpoint (FL05@4) and where the flowline crossed an ephemeral drainage (FL03@4). Per approved Form 27 Initial Document 403366363, all confirmation soil samples were submitted to Summit Scientific (Summit) in Golden, Colorado for analysis of full Table 915-1 constituents in soil.

WH01@6 and FL05@4 reported pH exceedances above Table 915-1 and background levels; however, no organic compounds or salts indicative of a release were reported above Table 915-1 for all confirmation soil samples. Western Operating respectfully requests pH exceedances be considered de minimis in quantity and may not be associated with E&P activities. Confirmation soil sample WH01@6 reported lead above Table 915-1 Protection of Groundwater Soil Screening Limits. Because groundwater is anticipated to be greater than 25 ft-bgs based on groundwater well permit 36568, Western Operating respectfully requests to utilize Residential Soil Screening Limits at this location for lead. All other analytical results for soil samples submitted for analysis are compliant with their respective Table 915-1 Protection of Groundwater Soil Screening Levels and site-specific background levels. If no other information or investigation is required for this location, Western Operating requests closure be granted for Remediation Project 29344.

Please refer to the attached Wellhead Closure Checklists for a detailed description of site investigation activities. A general location map is provided as Figure 1. Sample location information is provided in Table 1. Soil sample and field screening locations are presented on Figure 2, and analytical results are summarized in Table 2 Table 3 and Table 4. A photo log and the laboratory analytical reports are also attached.

Flowline Facility ID 484353 could not be added to the Site Information of this Form/Remediation Project due to a location error in the COGIS record causing a validation error in WebForms. This flowline has been removed from the subsurface and was reported in Form 44 Document 403650916.

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: 03/21/2024

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: 05/29/2024

Remediation Project Number: 29344

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

403727953	FORM 27-SUPPLEMENTAL-SUBMITTED
403727987	MAP
403727989	SOIL SAMPLE LOCATION MAP
403727991	ANALYTICAL RESULTS
403727992	ANALYTICAL RESULTS
403727993	PHOTO DOCUMENTATION
403727995	OTHER

Total Attach: 7 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Environmental	<p>Based on the information presented, it appears that no further action is necessary at this time and the ECMC approves the closure request. However, if future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.</p> <p>The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.</p>	05/29/2024
Environmental	Based on the information presented, it appears the elevated pH samples appears to be de minimis in quantity or within the range of background pH; therefore, elevated pH may not be associated with E&P activities. It appears that no further remedial action is necessary at this time and the ECMC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding ECMC standards or background levels or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.	05/29/2024
Environmental	Based on the Operator's assessment of background conditions at the subject location, arsenic and barium results for confirmation soil samples appear to be representative of background as opposed to E&P activities. Therefore, the Operator's demonstration of background will be accepted as an alternative to the default standard in ECMC's Table 915-1.	05/29/2024
Environmental	ECMC approves Operator's request for use of Residential SSLs based on the depth to groundwater and the local lithology suggesting a pathway to groundwater at this location is not likely.	05/29/2024

Total: 4 comment(s)