

State of Colorado  
Energy & Carbon Management Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203  
Phone: (303) 894-2100 Fax: (303) 894-2109



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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 38529 Initial Form 27 Document #: 404066172

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>WELL</u>	Facility ID: _____	API #: <u>087-05130</u>	County Name: <u>MORGAN</u>
Facility Name: <u>PETERSON, MAX 1</u>	Latitude: <u>40.024030</u>	Longitude: <u>-103.623920</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>27</u>	Twp: <u>1N</u>	Range: <u>56W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u>

Facility Type: <u>LOCATION</u>	Facility ID: <u>313655</u>	API #: _____	County Name: <u>MORGAN</u>
Facility Name: <u>PETERSON, MAX-61N56W 27SENE</u>	Latitude: <u>40.024030</u>	Longitude: <u>-103.623920</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>27</u>	Twp: <u>1N</u>	Range: <u>56W</u> Meridian: <u>6</u> Sensitive Area? <u>No</u>

Facility Type: OFF-LOCATION FLOWLINE Facility ID: 479480 API #: \_\_\_\_\_ County Name: MORGAN  
Facility Name: Wellhead Line 27SENW Latitude: 40.024039 Longitude: -103.633289  
\*\* correct Lat/Long if needed: Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_  
QtrQtr: SENW Sec: 27 Twp: 1N Range: 56W 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**

Closest Domestic Well within quarter mile – None  
Additional Water Wells – Permit 96-WCB 0.56mi East  
Nearest Surface Water – 0.89 mile northwest  
Nearest Occupied Building – None  
No other potential receptors or wildlife high priority habitats are located within ¼ mile of the Site  
Above distances are approximations

# 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 known impacts	Investigation pending

## INITIAL ACTION SUMMARY

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

In accordance with ECOM Rule 911, this form serves as notification for the decommissioning and abandonment of the Peterson, Max #1 wellhead. See Form 27 initial Document 404066172 Figure 1 for a General Location Map of the wellhead area. Final plugging operations took place 1st quarter 2025. The ground and sub-surfaces were visually inspected for hydrocarbon impacts during equipment decommissioning.

## 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 samples will be collected from the floor and sidewalls in cardinal directions of the wellhead for field screening purposes. Discrete grab confirmation soil samples will be collected for laboratory analysis either in any area of suspected hydrocarbon impacts, or, absent any suspected soil impacts, adjacent to the cut and capped wellhead and from below the wellhead flowline riser. Soil samples will be submitted to an accredited laboratory for analysis of all Table 915-1 soil constituents of concern. See Form 27 initial 404066172 Figure 2 for an illustration of the wellhead and proposed soil sample locations.

### 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 and/or abandonment 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 Groundwater Inorganic Parameters 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 ):

Soil samples were collected along the flowline path using a hand auger and were field-screened using a PID calibrated to 100ppm. No visual, olfactory, or instrumentation evidence of a hydrocarbon release were noted. Additional grab confirmation soil samples will be collected from either end of the abandoned in place flowline path, and will be submitted for laboratory analysis of full Table 915-1 constituents in soils.

# SITE INVESTIGATION REPORT

## SAMPLE SUMMARY

<b>Soil</b>	<b>NA / ND</b>
Number of soil samples collected <u>    2    </u>	<u>    ND    </u> Highest concentration of TPH (mg/kg) <u>        </u>
Number of soil samples exceeding 915-1 <u>    0    </u>	<u>    ND    </u> Highest concentration of SAR <u>        </u>

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

BTEX > 915-1 No \_\_\_\_\_

Approximate areal extent (square feet) \_\_\_\_\_ 0

Vertical Extent > 915-1 (in feet) \_\_\_\_\_ 0

**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?

Three discrete grab background samples were collected at 5ft-bgs using hand auger at off-location areas undisturbed by oil and gas activities in order to characterize site-specific pH and arsenic conditions in soils. Laboratory analytical reports demonstrate that pH and arsenic concentrations above ECOMC Table 915-1 Soil Screening Limits exist naturally at this location. The highest reported background pH value was used to establish an upper pH soil screening limit of 8.45, and the highest reported background arsenic concentration was multiplied 1.25x to establish a background soil screening limit of 2.56mg/kg.

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?

As noted in the attached secured laboratory analytical report 2503188, laboratory analysis using EPA 8260B Method for samples collected on 3/10/25 were performed outside of laboratory hold times due to laboratory error. Therefore, the reported data included in the attached laboratory analytical report and summary tables for the constituents BTEX, naphthalene, 1,2,4 -, and 1,3,5 trimethylbenzene, and gasoline range organics may not be valid and may require new samples be collected and analyzed for the constituents with invalid original laboratory analysis data. Operator will recollect grab confirmation soil samples WH01@6 and WH01-E@4 for submittal of EPA Method 8260 analysis.

**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, soils may be removed and transported to a licensed disposal facility. If all source material cannot be removed during excavation activities, alternative plans will be proposed in subsequent Form 27 supplemental.

**REMEDICATION 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 reportable soil impacts, as defined in Rule 912.b., are discovered, a Form 19 Spill/Release report will be submitted and a site-specific remediation plan will be developed and submitted via a Supplemental Form 27.

**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

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

\_\_\_\_\_ Other \_\_\_\_\_

\_\_\_\_\_ 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.

Final reclamation will be conducted in accordance with ECMC 1004 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. 12/18/2024

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

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 01/22/2025

Proposed site investigation commencement. 02/14/2025

Proposed completion of site investigation. 09/30/2025

### 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:

\_\_\_\_\_

## OPERATOR COMMENT

Initial wellhead decommissioning activities and grab confirmation soil sampling at the Peterson Max 1 wellhead occurred on March 10, 2025. Four discrete soil samples were collected from the four sidewalls of the excavation to cut and cap the Peterson Max 1 wellhead (WH01) and were field screened using a photo-ionization detector (PID) calibrated with 100 parts per million (ppm) isobutylene gas. All field screening PID readings were less than 8.3 ppm, and no visual or olfactory evidence of impact was observed.

Soil samples were collected from the floor of the wellhead excavation (WH01@6), and sidewall exhibiting the highest PID result WH01-E@4). All facility closure confirmation soil samples were submitted to Summit Scientific (Summit) in Golden, Colorado for analysis of the full list of Table 915-1 constituents in soil.

Additional background sampling was conducted on May 16, 2025, using hand auger at off-location areas undisturbed by oil and gas activities, to further characterize site-specific natural arsenic conditions in soils. Additionally, eleven discrete soil sample were collected and field screened from along the path of the abandoned in place wellhead flowline. All field screening PID readings were less than 3.2 ppm, and no visual or olfactory evidence of impact was observed.

As noted in the attached secured laboratory analytical report 2503188, laboratory analysis using EPA 8260B Method for samples collected on 3/10/25 were performed outside of laboratory hold times due to laboratory error. Therefor, the reported data included in the attached laboratory analytical report and summary tables for the constituents BTEX, naphthalene, 1,2,4 -, and 1,3,5 trimethylbenzene, and gasoline range organics may not be valid. Operator will recollect grab confirmation soil samples WH01@6 and WH01-E@4 for submittal of EPA Method 8260 analysis.

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: 07/30/2025

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: 12/17/2025

Remediation Project Number: 38529

### COA Type

### Description

	Based on the Operator's assessment of background conditions at the subject location, arsenic 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.
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

404300562	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
404300616	LABORATORY ANALYTICAL REPORT
404300618	LABORATORY ANALYTICAL REPORT
404300619	MAP
404300621	SOIL SAMPLE LOCATION MAP
404300622	PHOTO DOCUMENTATION
404300623	ANALYTICAL DATA SUMMARY TABLE(S)
404477199	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 8 Files

### General Comments

### User Group

### Comment

### Comment Date

		Stamp Upon Approval
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Total: 0 comment(s)