

State of Colorado
Energy & Carbon Management Commission

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Document Number:
404252266
Receive Date:
08/14/2025
Report taken by:
KRIS NEIDEL

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 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: <u>WOLVERINE RESOURCES LLC</u>	Operator No: <u>10677</u>	Phone Numbers
Address: <u>109 EAST 17TH STREET #430</u>		Phone: <u>(970) 946 3761</u>
City: <u>CHEYENNE</u> State: <u>WY</u> Zip: <u>82001</u>		Mobile: <u>()</u>
Contact Person: <u>Jacob Harter</u>	Email: <u>jharter@cottonwoodconsulting.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 42689 Initial Form 27 Document #: 404252266

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 No Multiple Facilities

Facility Type: <u>PIT</u>	Facility ID: <u>100044</u>	API #: _____	County Name: <u>MOFFAT</u>
Facility Name: <u>ANDERSON 1</u>	Latitude: <u>40.791681</u>	Longitude: <u>-107.856434</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SWSE</u>	Sec: <u>29</u>	Twps: <u>10N</u>	Range: <u>93W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Agriculture

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

NA

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- X E&P Waste
Other E&P Waste
Non-E&P Waste
X Produced Water
Workover Fluids
X Oil
Tank Bottoms
X Condensate
Pigging Waste
Drilling Fluids
Rig Wash
Drill Cuttings
Spent Filters
Pit Bottoms
Other (as described by EPA)

DESCRIPTION OF IMPACT

Table with 4 columns: Impacted?, Impacted Media, Extent of Impact, How Determined. Row 1: Yes, SOILS, TBD, Field Screening & Analytical Results

INITIAL ACTION SUMMARY

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

This Form 27 is being submitted to document investigation activities related to the registered pit (Facility ID #100044) associated with the Anderson #1 (OWP) wellsite. The ECMC OWP plugged the Anderson #1 (OWP) well and decommissioned the wellsite during fall 2023 and summer 2024.

PROPOSED SAMPLING PLAN

Proposed Soil Sampling

X Will soil samples be collected as part of this investigation? (Number, type (grab/composite), analyses, and locations of samples):

During the spring and summer of 2025, approximately 292 cubic yards of impacted material was excavated in the vicinity of the former pit (Facility ID #100044). The pit area was excavated to a depth of approximately 25 feet and a total of seven soil samples were collected during the pit investigation.

Proposed Groundwater Sampling

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

No groundwater was encountered during the pit investigation. No groundwater sample were collected as part of this project.

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):

Field personnel performed a visual/olfactory inspection of the facility. Based on soil sampling results and field observations, it appears further investigation is necessary in the area of registered pit (Facility ID #100044) to fully define the extent of impacts.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 7

Number of soil samples exceeding 915-1 4

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

Approximate areal extent (square feet) 1200

NA / ND

-- Highest concentration of TPH (mg/kg) 2799.4

-- Highest concentration of SAR 7.05

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 5

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?

One background soil sample was collected upgradient from the wellsite from nearby, non-impacted native soil to establish background concentrations. Five additional backgrounds were collected within the Wolverine Well Plugging Project area. A table of background soil sample results is provided in the attachments. The background samples indicate arsenic above the ECMC Table 915-1 standards. It is requested that background concentrations be considered when evaluating this site for final closure.

Was investigation derived waste (IDW) generated as part of this investigation?

Volume of solid waste (cubic yards) 292

Volume of liquid waste (barrels) 0

Is further site investigation required?

During the spring and summer of 2025, the area surrounding the Anderson 1 pit (Facility ID #100044) was excavated to a depth of approximately 25 feet. Approximately 292 cubic yards of impacted soils were excavated and hauled to the Moffat County Landfill for disposal. Soils within the pit area were grey with a strong hydrocarbon odor. A total of seven samples were collected during the pit investigation. Soil sampling is a continuation of the Anderson#1 (OWP) decommissioning project and soil sample ids for the pit investigation start at SS14. One sample was collected from the spoils pile (SS14) for waste characterization purposes, and six other samples were collected from the base and sidewalls of the excavation (SS15-SS21). One sample was collected from the southern spoils pile (SS20) but was not submitted for laboratory analysis. Laboratory analytical results indicate TPH concentrations exceeded the ECMC Table 915-1 standards on the south sidewall (SS15) and east sidewall (SS16) of the excavation, pH was also outside the range of the ECMC standards in the base sample (SS21). Following the pit investigation and remediation efforts, the pit was backfilled with clean soils.

ility ID #100044). It appears further horizontal delineation is necessary to fully deBased on soil sample results and field observation there still appears to be E&P impacts within the area of registered pit (Fafine the extent of the impacts.

REMEDIAL ACTION PLAN

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Any impacted soils that were generated during this investigation were hauled to the Moffat County Landfill for disposal.

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.

Any future investigation and remediation efforts that produce E&P waste will be removed from the site and hauled to an approved disposal facility.

Soil Remediation Summary

In Situ

Ex Situ

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

- Yes _____ Excavate and offsite disposal
- _____ If Yes: Estimated Volume (Cubic Yards) _____ 292
- _____ 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.

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

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? Yes

Describe beneficial use, if any, of E&P Waste derived from this remediation project:

Impacted material was excavated and hauled to the Moffat County Municipal Solid Waste Landfill for disposal.

Volume of E&P Waste (solid) in cubic yards _____ 292

E&P waste (solid) description E&P Impacted Soils

ECMC Disposal Facility ID #, if applicable: _____

Non-ECMC Disposal Facility: Moffat County Solid Waste Municipal Landfill

Volume of E&P Waste (liquid) in barrels _____ 0

E&P waste (liquid) description No liquid E&P waste was generated during investigation.

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 reseed program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing.

Final reclamation will be conducted per ECMC reclamation rules and prioritized based on OWP funding and staff availability. Any exceedances defined under "Soil Suitability for Reclamation" within Table 915-1 are addressed during a later reclamation phase of the project. The scope of reclamation planning for this site will include a plan to address and avoid any effect on reclamation from 915-1 inorganic exceedances that are documented on this form; and will be accessible to ECMC staff upon request once developed. ECMC remains responsible for monitoring, maintenance, and management of all sites until passing final reclamation. This includes, but is not limited to, tasks such as weed control, installation and maintenance of storm water controls, and re-seeding until the site meets ECMC final reclamation standards. For questions regarding reclamation activities please contact ECMC OWP Reclamation Project Manager at (970) 946-9107.

Is the described reclamation complete? No _____

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? No _____

If YES, does the seed mix comply with local soil conservation district recommendations? _____

Did the local soil conservation district provide the seed mix? No _____

SITE RECLAMATION DATES

Proposed date of commencement of Reclamation. 04/01/2027

Proposed date of completion of Reclamation. 08/01/2027

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). 04/30/2025

Proposed site investigation commencement. 04/30/2025

Proposed completion of site investigation. 05/13/2025

REMEDIAL ACTION DATES

Proposed start date of Remediation. 05/01/2026

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

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 is being submitted to document initial investigation activities related to the registered pit (facility ID #100044). Following the initial site investigation of the registered pit at the Anderson #1 (OWP) site, it appears further horizontal delineation is necessary to define the full extent of impacts. This Site Investigation and Remediation Work Plan is being prepared and submitted on behalf of the ECMC Orphaned Well Program.

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

Signed: Jacob Harter

Title: Consultant

Submit Date: 08/14/2025

Email: jharter@cottonwoodconsulting.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: KRIS NEIDEL

Date: 09/30/2025

Remediation Project Number: 42689

COA Type**Description**

	Approval of this project is acceptance that impacts remain and have yet to be delineated and remediated. All soil will comply with Table 915-1.
	In 2026 a plan to delineate the pit shall be submitted.
2 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**

404252266	INVESTIGATION/REMEDATION WORKPLAN (INITIAL)
404298575	ANALYTICAL DATA SUMMARY TABLE(S)
404302679	ANALYTICAL RESULTS
404302680	ANALYTICAL RESULTS
404302683	PHOTO DOCUMENTATION
404306144	DISPOSAL MANIFESTS
404310456	ANALYTICAL RESULTS
404311983	ANALYTICAL DATA SUMMARY TABLE(S)
404317547	SOIL SAMPLE LOCATION MAP
404374829	FORM 27-INITIAL-SUBMITTED

Total Attach: 10 Files

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

Environmental	REM project # 28020 is for the abandonment of the location, other than Pit 100044.	09/30/2025
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Total: 1 comment(s)