

State of Colorado
Energy & Carbon Management Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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403661909

Receive Date:

01/22/2024

Report taken by:

Jason Kosola

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: <u>ENDURING RESOURCES LLC</u>	Operator No: <u>10663</u>	Phone Numbers Phone: <u>(720) 7683575</u> Mobile: <u>(720) 7683575</u>
Address: <u>6300 S SYRACUSE WAY, SUITE 525</u>		
City: <u>CENTENNIAL</u>	State: <u>CO</u>	Zip: <u>80111</u>
Contact Person: <u>Kayla White</u>	Email: <u>kwhite@cdhconsult.com</u>	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 33443 Initial Form 27 Document #: 403597320

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: Historic pit from previous operator

SITE INFORMATION

No Multiple Facilities

Facility Type: <u>PIT</u>	Facility ID: <u>288232</u>	API #: _____	County Name: <u>LA PLATA</u>
Facility Name: <u>KOSHAK GU A1</u>	Latitude: <u>37.202737</u>	Longitude: <u>-107.848158</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NWSE</u>	Sec: <u>8</u>	Twp: <u>34N</u>	Range: <u>9W</u> Meridian: <u>M</u> Sensitive Area? <u>No</u>

SITE CONDITIONS

General soil type - USCS Classifications SP Most Sensitive Adjacent Land Use Commercial and residential

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

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	None	Soil sample taken

INITIAL ACTION SUMMARY

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

During the desktop analysis, CDH reviewed operating documents from Enduring, reviewed historically filed document on the ECMC database, and viewed historic imagery from available resources including Google Earth and recently collected drone data to determine the presence or absence of previously permitted pits. For the Koshak GU A1 pit location, it was determined based on the desktop review that a pit likely existed at one point and was since reclaimed by another operator prior to Enduring owning the assets.

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):

Please see attached diagram. On June 26, and again on August 11, 2023, CDH collected representative soil samples at the facility as close to the pit location based on historical records and current site conditions. Due to the previous reclamation of the sites, samples were collected with a hand auger at a depth of 1-2 feet below surface grade. Soil samples were collected and sent to Origins Laboratory in Denver, Colorado for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), total petroleum hydrocarbons (TPH), polyaromatic hydrocarbons (PAH), metals, sodium adsorption ratio (SAR), pH, and specific conductivity (EC). Analytical results were compared to ECMC Table 915-1 levels to comply with current pit closure regulations.

Proposed Groundwater Sampling

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

No impact to groundwater is anticipated from this historic pit based on the field observation and depth to ground water in the area being on average greater than 20 feet below grade surface. No ground water was observed during field activities.

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 6
Number of soil samples exceeding 915-1 0
Was the areal and vertical extent of soil contamination delineated? No
Approximate areal extent (square feet) 0

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

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.

NA / ND

-- Highest concentration of TPH (mg/kg) 41.3
ND Highest concentration of SAR
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 0
ND Highest concentration of Benzene (µg/l)
ND Highest concentration of Toluene (µg/l)
ND Highest concentration of Ethylbenzene (µg/l)
ND Highest concentration of Xylene (µg/l)
ND Highest concentration of Methane (mg/l)

OTHER INVESTIGATION INFORMATION

☐ Were impacts to adjacent property or offsite impacts identified?

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

Five background sample were taken in an undisturbed area adjacent to the pit location. The first sample was collected on June 26th, at the same time as the initial sample. The other four were collected August 11th. The samples were collected and tested for EC, SAR, pH, and arsenic. The background samples were used to establish site specific background levels for arsenic and/or SAR.

☐ 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.

Please see the attached letter narrating that this is an historic pit per the administrative record. Enduring is seeking to administratively close the pit to finalize the ECMC's records.

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.

Background samples were collected to characterize site specific soil concentrations. The results indicate that pit content concentrations are within acceptable ECMC closure criteria of less than established background samples.

Soil Remediation Summary

☐ In Situ

☐ Ex Situ

 Bioremediation (or enhanced bioremediation)

 Excavate and offsite disposal

_____ Chemical oxidation
_____ Air sparge / Soil vapor extraction
_____ Natural Attenuation
_____ Other _____

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.

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

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? _____

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.

For the Koshak GU A1 pit location, it was determined based on the desktop review that a pit likely existed at one point and was since reclaimed by another operator prior to Enduring owning the assets. The entire oil and gas location will be reclaimed during final reclamation following plugging and abandoning activities at the end of the life of the well.

Is the described reclamation complete? Yes

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. _____

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. _____

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

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 06/26/2023

Proposed site investigation commencement. 06/26/2023

Proposed completion of site investigation. 08/11/2023

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

Documentation supporting closure of this Remediation was provided on the Form 27 Initial

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

Signed: Danielle Gavito

Title: Senior Regulatory Analyst

Submit Date: 01/22/2024

Email: dgavito@cdhconsult.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: Jason Kosola

Date: 04/18/2024

Remediation Project Number: 33443

COA Type**Description**

	<p>NO FURTHER ACTION</p> <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>
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**

403661909	FORM 27-SUPPLEMENTAL-SUBMITTED
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Total Attach: 1 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)