

State of Colorado
Energy & Carbon Management Commission

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Receive Date:

Report taken by:

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: FUNDARE RESOURCES OPERATING COMPANY LLC	Operator No: 10773	Phone Numbers
Address: 5251 DTC PKWY STE 950		Phone: (303) 910-4511
City: GREENWOOD VILLAGE	State: CO	Zip: 80111
Contact Person: Sydney Smith	Email: ssmith@fundareresources.com	Mobile: ()

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 34263 Initial Form 27 Document #: 403687132

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: SPILL OR RELEASE	Facility ID: 480947	API #: _____	County Name: WELD
Facility Name: Horsetail 07F-0639	Latitude: 40.853609	Longitude: -103.795952	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: SENW	Sec: 7	Twp: 10N	Range: 57W
Meridian: 6	Sensitive Area? Yes		

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? Yes

Is groundwater less than 20 feet below ground surface? No

Other Potential Receptors within 1/4 mile

There are no residence or habitable structures within a quarter mile. There are no County Roads within a quarter mile. There are no domestic wells within a quarter mile. There is a dry stormwater drainage 704 ft North East of the release location that only contains water during 100 year flood events. There are no mapped wetlands within a quarter mile. There are no High Priority Habitats within a quarter mile of the release location.

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
Yes	SOILS	17x12	Screening/Sampling

INITIAL ACTION SUMMARY

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

On 10/19/2021 under the previous operator a release occurred at the horsetail 07F well pad. Less than 1 bbl was released from a needle valve on the wellhead. The mist covered a 50x 35 area and left the location. The release was not closed out under the previous operator and additional remediation was recently conducted.

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):

Initial investigation samples were collected on 8/28/2023 on the surface where the misting occurred. Initial analytical results indicated no organics were present however, SAR and PH exceeded table 915 limits and site specific backgrounds. Additional scraping was completed removing exceedances in SS-3. All constituents are in compliance across the mist zone except for SS-1 near the wellhead . Additional excavation has been completed and along with sampling, and analytical results identified exceedance of SAR. Additional investigation has determined that the initial release reported by whitening was delineated and cleaned up, and remaining SAR Impacts appear to be related to approved drill cuttings or approved fill material utilized to construct the pad. Please refer to the attached investigation report for details.

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 102

Number of soil samples exceeding 915-1 102

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

Approximate areal extent (square feet) 42596

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? Yes

Depth to groundwater (below ground surface, in feet)

Number of groundwater monitoring wells installed

Number of groundwater samples exceeding 915-1

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 19.1

BTEX > 915-1 No

Vertical Extent > 915-1 (in feet) 6

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?

A total of 13 background soil samples were collected in accordance with the 915 guidance. All backgrounds were collected at a sufficient distance from the release location, on and off pad to most accurately reflect the same soil horizon confirmation soil samples were collected in.

☐ 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.

The release occurred under the previous operator. Following Fundare investigation and discovery of existing impacts remedial excavation was completed to remove impacts. No free product was present during Fundare investigation or signs of impacts.

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.

Initial investigation samples were collected on 8/28/2023 on the surface where the misting occurred. Initial analytical results indicated no organics were present however, SAR and PH exceeded table 915 limits and site specific backgrounds. Additional scraping was completed removing exceedances in SS-3. All constituents are in compliance across the mist zone except for SS-1 near the wellhead. On 1/16/2024 remedial excavation was conducted and excavation samples were collected near the wellhead. SW-1 through SW-3, and Bottom Hole 1 contained exceedances of SAR and PH. Additional excavation and background sampling delineated the reported misting that occurred under the previous operator. Exceedances of SAR and deeper depths excavation continued to delineate these impacts. Analytical results from sampling continued to identify SAR exceedances with all other constituents in compliance. Further investigation was completed across the site analyzing SAR and elevated SAR was found across the site between 3 and 6'. For additional details please refer to the operator comments and attached investigation report.

Soil Remediation Summary

☐ In Situ

☒ Ex Situ

_____ Bioremediation (or enhanced bioremediation)

Yes _____ Excavate and offsite disposal

_____ Chemical oxidation

_____ If Yes: Estimated Volume (Cubic Yards) _____ 1185

_____ Air sparge / Soil vapor extraction

_____ Name of Licensed Disposal Facility or ECMC Facility ID # _____

_____ Natural Attenuation

_____ Excavate and onsite remediation

_____ Other _____

_____ 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.

Fundare has the required sufficient insurance to fully address the anticipated costs of Remediation, including the remaining estimated costs for this project. Fundare has general liability insurance and financial assurance as required by COGCC rules.

Operator anticipates the remaining cost for this project to be: \$ 15000

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:

There is no beneficial use of the E&P waste generated.

Volume of E&P Waste (solid) in cubic yards 1185

E&P waste (solid) description Hydrocarbon Impacted soil

ECMC Disposal Facility ID #, if applicable:

Non-ECMC Disposal Facility: Pawnee Landfill

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

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.

Once remedial excavation is complete and impacts have been removed, interim reclamation will be completed following the 1000 series reclamation rules, and the site will be returned to pad material.

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. 08/19/2024

Proposed date of completion of Reclamation. 06/11/2025

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. 10/19/2021

Actual Spill or Release date, or date of discovery. 10/19/2021

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 08/28/2023

Proposed site investigation commencement. 08/28/2023

Proposed completion of site investigation. 09/28/2023

REMEDIAL ACTION DATES

Proposed start date of Remediation. 10/02/2023

Proposed date of completion of Remediation. 02/17/2025

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

Following the review of the November 5 results Fundare and MarCom determined that it would be best to conduct delineation borings across the entire site (refer to Figure 5). A total of 30 soil borings were completed at depths ranging from 4-6' across the site. Utilizing background data and Soil Boring data the extent of SAR was determined to be contained within the footprint of the pad.

A thorough investigation into the ECMC database determined that approval was granted to the previous operator in a Form 2A Document number 400841344 to spread drill cuttings on site. Following a review of the data and footprint of SAR Impacts spread across the pad it has been concluded that remaining SAR impacts are not associated with the reported misting release but is related to drill cutting and pad material that was imported to the site and approved to be spread under 910 rules. With samples across the site containing no other trends or exceedances related to oil and gas activity or the reported release, data indicates that SAR exceedance was already pre-existing prior to the release occurring. Fundare is requesting no further action be granted, and these SAR exceedances be left in place based on the remaining SAR exceedances being related to the approved spreading of the drill cuttings and pad fill material.

For additional detail please review the attached Site Investigation report.

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

Signed: Sydney Smith

Title: Director EHSR

Submit Date: _____

Email: ssmith@fundareresources.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: _____

Date: _____

Remediation Project Number: 34263

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**

404186437	ANALYTICAL DATA SUMMARY TABLE(S)
404186438	ANALYTICAL DATA SUMMARY TABLE(S)
404186443	SOIL SAMPLE LOCATION MAP
404186447	SOIL SAMPLE LOCATION MAP
404186449	SOIL SAMPLE LOCATION MAP
404186451	SOIL SAMPLE LOCATION MAP
404186457	SOIL SAMPLE LOCATION MAP
404187771	SITE INVESTIGATION REPORT
404187772	LABORATORY ANALYTICAL REPORT
404187773	LABORATORY ANALYTICAL REPORT

Total Attach: 10 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)