

State of Colorado
Energy & Carbon Management Commission

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Report taken by:
Chris Binschus

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

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 29346 Initial Form 27 Document #: 403336020

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>SPILL OR RELEASE</u>	Facility ID: <u>481754</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Razor 26 CPB</u>	Latitude: <u>40.809358</u>	Longitude: <u>-103.837000</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>NESW</u>	Sec: <u>26</u>	Twp: <u>10N</u>	Range: <u>58W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

SITE CONDITIONS

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

There are no residents or habitable structures within a quarter mile of the release. There are no marked county roads, however there is a lease road 122' North of the release location. There is no marked surface water within a quarter mile of the release, but there is a dry ravine 917' to the South of the release. There are 2 Monitoring wells 1311' East of the release location. The release is within the buffer of the Mule Deer Severe winter range, CPW has been notified of this.

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	1050 SQ FT	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.

Upon discovery of the release on the produced water line at the tank battery, all wells were shut in to the battery, and treater lines were drained. A crew was dispatched to the location to begin Hydrovacing, and excavation to remove the source and to eliminate impacts from migrating on-site.

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):

After completion of the initial excavation, On August 5, 2022, MarCom LLC conducted field screening at the site to identify if impacts remain. Screening results conducted utilizing a PID indicated that additional excavation was necessary. Following multiple excavation events final excavation extent soil confirmation samples were collected following the COGCC table 915- guidance. Analytical results indicated that all impacts had been removed except for SAR from SW-5, SW-7, BH-3, BH-4, BH-6, and BH-7 and PH in SW-17 at depth greater than the 4-foot reclamation root zone. Due to the remaining impacts being below the reclamation root zone, Fundare is requesting conditional closure of the release following the attached reclamation plan. Insitu impacts have been defined vertically and horizontally with soil borings.

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 35
Number of soil samples exceeding 915-1 10
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 1050

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 16.4
BTEX > 915-1 No
Vertical Extent > 915-1 (in feet) 10

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?

Yes, A total of 11 site specific backgrounds were collected at different depth that were consistent with depth of confirmation samples. 1 background sample was collected on the pad at a sufficient distance from the excavation, in an area with no knowledge of a release. Background samples were collected at similar depths as soil confirmation samples in the same siltstone soil horizon as the confirmation samples. The Background sample collected on the pad more accurately reflects background levels of samples collected from imported materials. Backgrounds collected are sufficient for comparison.

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.

Upon discovery of the release on the produced water line at the tank battery, all wells were shut in to the battery, and treater lines were drained. A crew was dispatched to the location to begin Hydrovacating, and excavation to remove the source and to eliminate impacts from migrating on-site.

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.

Confirmation soil samples were collected in accordance with the Table 915-1 guidance. Final excavation extent analytical results indicated that all impacts have been removed except for SAR from SW-5, SW-7, BH-3, BH-4, BH-6, and BH-7 and PH in SW-17 at depth greater than the 4-foot reclamation root zone. Fundare is requesting conditional closure and backfill of the site with NFA following the interim reclamation plan attached. Additionally soil borings were collected to define the vertical extent at a depth of 15', and the horizontal extent of remaining SAR and PH as shown in the map. Soil boring outside of the confirmation sample zone identified 0 exceedances of SAR. The soil borings fully delineate the extent of the SAR requested to be left in place.

Soil Remediation Summary

In Situ

_____ Bioremediation (or enhanced bioremediation)
 _____ Chemical oxidation
 _____ Air sparge / Soil vapor extraction
 _____ Natural Attenuation
 Yes _____ Other Leave in place under approved
 _____ reclamation plan.

Ex Situ

Yes _____ Excavate and offsite disposal
 _____ If Yes: Estimated Volume (Cubic Yards) 388
 Name of Licensed Disposal Facility or COGCC 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.

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: \$ 5000 _____

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 _____ 388

E&P waste (solid) description Hydrocarbon Impacted soil

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC Disposal Facility: Pawnee waste

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

E&P waste (liquid) description _____

COGCC Disposal Facility ID #, if applicable: _____

Non-COGCC 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? No

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 COGCC 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.

The site will be backfilled and reclaimed and reclaimed following the submitted interim reclamation plan, which is following 1003 interim reclamation requirements returning it to its pre-excavation condition, and production will continue.

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. 11/27/2023

Proposed date of completion of Reclamation. 12/08/2023

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. 03/12/2022

Actual Spill or Release date, or date of discovery. 03/11/2022

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 03/11/2022

Proposed site investigation commencement. 03/12/2022

Proposed completion of site investigation. 08/05/2022

REMEDIAL ACTION DATES

Proposed start date of Remediation. 04/01/2022

Proposed date of completion of Remediation. 11/14/2023

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

Fundare is submitting this Form 27 Supplemental requesting closure leaving soils under the reclamation root zone in place following an approved reclamation plan. Final excavation extent analytical results indicated that all impacts have been removed except for SAR from SW-5, SW-7, BH-3, BH-4, BH-6, and BH-7 and PH in SW-17 at depth greater than the 4-foot reclamation root zone. Extent soil borings were conducted to vertically and horizontally define the extent of impacts. Soil borings outside of the confirmation soil sample area did not contain any SAR exceeding table 915-1 limits or site specific backgrounds, defining the extent of SAR. Soil borings did contain minimal exceedances of PH however, Soil confirmation samples did not contain any exceedances of PH and were all in compliance, except for SW-17 which was 8.31 vs the limit of 8.3. Per discussion with ECMC on 1/24/2024 soil borings have fully defined the vertical and Horizontal extent of SAR being left in place. The reclamation plan has been attached for ECMC reclamation team review. Site reclamation will include regrading the release area to return to production. Analytical lab reports have been provided in previous form 27 submissions, analytical summary tables and Updated maps have been provided for ease of review.

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: 01/25/2024

Email: ssmith@fundareresources.com

Based on the information provided herein, this Application for Site Investigation and Remediation Workplan complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: Chris Binschus

Date: 02/16/2024

Remediation Project Number: 29346

COA Type

Description

COA Type	Description
Interim Reclamation	<p>Operator provided an effective rooting depth of approximately 60 inches based on the Web Soil Survey at the site but did not provide individual plant root depth information per the guidance.</p> <p>Fourwing saltbrush rooting depth can be commonly very deep reaching depths of up to 20 feet. All of the other listed species typically do not have a rooting depth greater than 6 feet.</p> <p>For future Reclamation Plan submissions and per the guidance, Operator shall provide individual plant root depth information with scientific documentation and sources provided with the Reclamation Plan.</p>
1 COA	

Attachment Check 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
403666211	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403666325	RECLAMATION PLAN
403666329	RECLAMATION FIGURE
403666351	ANALYTICAL RESULTS
403666353	ANALYTICAL RESULTS
403666360	SOIL SAMPLE LOCATION MAP
403690219	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 7 Files

General Comments

User Group	Comment	Comment Date
Reclamation Specialist	Based on topo information, it appears the location is relatively flat in respect to contouring for final reclamation. In the future, Operator may have to provide information regarding final reclamation re-contouring and how that might change where the in-situ exceedance depth resides.	02/16/2024

Reclamation Specialist	Reclamation Staff would like to provide clarification regarding seed mixture requirements. Per Rule 1003.e.(2), if a surface owner does not provide a seed mixture, then the Operator shall consult with the local NRCS representative to determine a proper seed mixture.	02/16/2024
Reclamation Specialist	The submitted results in the attached Reclamation Plan were sufficient but some information was missing for ECMC Staff to make a proper assessment about leaving exceedances of inorganics in-situ (refer to COA). Soil sample analytical results indicate SAR exceeds the allowable level for Table 915-1 soil suitability for reclamation at a depth of 6 feet (and greater) below ground surface. The extent is limited and below the plant root zone for most of the listed plant species; therefore, the limited area and depth of exceedances should not negatively affect plant growth. No further action is necessary at this time. However, should future conditions during final reclamation indicate poor growth that is not reflective of reference areas, then further investigation and reclamation activities may be required.	02/16/2024
Environmental	Based on the information presented, it appears the elevated pH sample from SW-17 appears to be de minimis in quantity; 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. This no further action determination is contingent on the implementation of the approved reclamation plan.	02/08/2024

Total: 4 comment(s)