

# State of Colorado Oil and Gas Conservation Commission

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403421370

Receive Date:

06/02/2023

Report taken by:

Kyle Waggoner

## 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>	<b>Phone Numbers</b>  Phone: <u>(303) 910-4511</u> Mobile: <u>( )</u>
Address: <u>5251 DTC PKWY STE 950</u>		
City: <u>GREENWOOD VILLAGE</u>	State: <u>CO</u> Zip: <u>80111</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-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. Additionally soil analytical was compared to residential limits as the pathway to groundwater is incomplete at this site. A Groundwater Monitoring well at a neighboring location, indicated groundwater in this area is 38' below ground surface (bgs).

#### 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

### **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**

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

## **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.

☐ 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-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. Analytical results obtained from the confirmation soil samples identified one location with PH exceedance, and 4 locations of SAR. Soil boring outside of the confirmation sample zone identified 0 exceedances of SAR and 0 exceedance of PH at depths where PH was present within the excavation. The soil boring fully delineate the extent of the requested leave in place inorganics.

## **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) \_\_\_\_\_ 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? No

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. 07/01/2023

Proposed date of completion of Reclamation. 08/02/2023

## 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

This Form 27 supplemental is being submitted to address all COAs from the previous form 27. Fundare is requesting conditional closure and backfill of the site with NFA following the discussed interim reclamation plan attached, and delineation of the vertical and horizontal extent. 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. Analytical results obtained from the confirmation soil samples identified one location with PH exceedance, and 4 locations of SAR. Soil boring outside of the confirmation sample zone identified 0 exceedances of SAR and 0 exceedance of PH at depths where PH was present within the excavation indicating that impacts from the release did not migrate beyond the extent of the soil borings. The soil boring fully delineates the extent of the requested leave in place inorganics. Residential soil screening limits were utilized as the default comparison, because the depth of groundwater (38') and the geological barrier of consolidated siltstone eliminates the impacts pathway to groundwater.

To address COGCC comment indicating EC was present at the site, SW-10 was removed with further excavation and resampled as SW-14 which was shown on the all samples map.

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: 06/02/2023

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: Kyle Waggoner

Date: 07/26/2023

Remediation Project Number: 29346

## COA Type

## Description

	Since the operator is proposing to leave soil suitability analytes in-situ alongside an approved Reclamation Plan, Operator shall mark "yes" on the Remedial Action Plan, In-Situ, "Other" option and provide an explanation.
	Operator shall provide a proposed amended Soil Sample Location Map that illustrates the proposed locations of Background samples.
	Closure request removed. If Operator proposes background soil sampling, Operator shall obtain background samples from a minimum of five (5) separate locations as an initial characterization. Background sampling locations should be sufficiently away from the impacted area to reflect conditions not impacted by oil and gas activity, and should be obtained from similar depths and soil horizons or lithologic materials for comparison to confirmation soil samples. The background samples collected are inappropriately located within disturbed pad material and not representative of the surrounding area's natural soil.
3 COAs	

## 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

403421370	INVESTIGATION/REMEDIATION WORKPLAN (SUPPLEMENTAL)
403421419	SITE MAP
403421420	SITE MAP
403421423	SOIL SAMPLE LOCATION MAP
403421438	ANALYTICAL RESULTS
403421440	ANALYTICAL RESULTS
403421441	ANALYTICAL RESULTS
403421443	ANALYTICAL RESULTS
403421445	ANALYTICAL RESULTS
403421471	RECLAMATION PLAN
403421488	RECLAMATION FIGURE
403421591	RECLAMATION FIGURE
403421600	ANALYTICAL RESULTS

403421609	ANALYTICAL RESULTS
403421615	ANALYTICAL RESULTS
403421723	SOIL SAMPLE LOCATION MAP
403476531	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 17 Files

### **General Comments**

<b><u>User Group</u></b>	<b><u>Comment</u></b>	<b><u>Comment Date</u></b>
Environmental	"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."	07/10/2023

Total: 1 comment(s)