

# State of Colorado Oil and Gas Conservation Commission

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Receive Date:

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Report taken by:

Krystal Heibel

## 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 #: 30104 Initial Form 27 Document #: 403389209

#### 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>480281</u>	API #: _____	County Name: <u>WELD</u>
Facility Name: <u>Wildhorse 06-0634H</u>		Latitude: <u>40.785565</u>	Longitude: <u>-104.019345</u>
** correct Lat/Long if needed: Latitude: _____ Longitude: _____			
QtrQtr: <u>LOR 2</u>	Sec: <u>6</u>	Twp: <u>9N</u>	Range: <u>59W</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 location. There are no marked bodies of surface waters within a quarter mile. Livestock has not been witnessed during any site visits, if they do get seen the receptors will be updated. There are no marked roads within a quarter mile however the lease road is 315 feet Southeast of the release. There are no water wells within a quarter mile of the release. This location is within the Mule Deer severe winter range and CPW has been notified of the release.

## 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	255	Excavation 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 crews were dispatched to the site and remedial activities began to remove the source and eliminate impacts from traveling on site. The surface excavation was completed and sampling was never conducted at the site. Further investigation recommenced March 8, 2023 to complete the remedial excavation and ensure all impacts are properly removed.

### 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 ):

Upon initial investigation and screening additional excavation was necessary. Samples were collected on 4/17/2023 in accordance with the 915 guidance, and were analyzed for full table 915-1 constituents. Analytical results indicated that all impacts were removed except for EC in SS-5@2'. Additional remedial excavation occurred in the area where SS-5 was located, and it was resampled as SS-5@3'. Confirmation sample SS-5 was collected in accordance with the 915 guidance, and was analyzed for full table 915-1 constituents. Analytical results indicated all impacts are below site specific background or table 915-1 limits. Residential soil screening is the default comparison when the pathway to groundwater is eliminated. Groundwater at this site based off of DWR data is located at a depth of 85 feet bgs. That combined with the known siltstone geology eliminates the pathway to groundwater.

#### Proposed Groundwater Sampling

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

Groundwater at this site based off of DWR data is located at a depth of 85 feet bgs. That combined with the known siltstone geology eliminates the pathway to groundwater.

#### 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 23

Number of soil samples exceeding 915-1 23

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

Approximate areal extent (square feet) 255

### 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

### NA / ND

-- Highest concentration of TPH (mg/kg) 8901

-- Highest concentration of SAR 186

BTEX > 915-1 Yes

Vertical Extent > 915-1 (in feet) 6

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?

A total of 8 site specific backgrounds were collected in accordance with 915 guidance.

☐ 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? Yes

## SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

Upon discovery of the release crews were dispatched to the site and remedial activities began to remove the source and eliminate impacts from traveling on site. The surface excavation was completed and sampling was never conducted at the site. Further investigation recommenced March 8, 2023 to complete the remedial excavation and ensure all impacts are properly removed

## 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.

Upon initial investigation and screening additional excavation was necessary. Samples were collected on 4/17/2023 in accordance with the 915 guidance, and were analyzed for full table 915-1 constituents. Analytical results indicated that all impacts were removed except for EC in SS-5@2'. Additional remedial excavation occurred in the area where SS-5 was located, and it was resampled as SS-5@3'. Confirmation sample SS-5 was collected in accordance with the 915 guidance, and was analyzed for full table 915-1 constituents. Analytical results indicated all impacts are below site specific background or table 915-1 limits. Residential soil screening is the default comparison when the pathway to groundwater is eliminated. Groundwater at this site based off of DWR data is located at a depth of 85 feet bgs. That combined with the known siltstone geology eliminates the pathway to groundwater. Fundare is requesting backfill and closure of this release.

## Soil Remediation Summary

☐ In Situ

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

☒ Ex Situ

Yes \_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_ 60  
\_\_\_\_\_ Name of Licensed Disposal Facility or COGCC Facility ID # \_\_\_\_\_  
No \_\_\_\_\_ 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: \$ 5200

### 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 derived from remediation.

Volume of E&P Waste (solid) in cubic yards 60

E&P waste (solid) description Hydrocarbon Impacted soil

COGCC Disposal Facility ID #, if applicable:

Non-COGCC Disposal Facility: Pawnee Landfill

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? Yes

Does the previous reply indicate consideration of background concentrations? Yes

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.

Reclamation at this site will be conducted in accordance with COGCC 1000 series reclamation rules.

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. 08/03/2023

Proposed date of completion of Reclamation. 08/18/2023

## 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. 07/11/2021

Actual Spill or Release date, or date of discovery. 07/11/2021

### SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 07/12/2021

Proposed site investigation commencement. 07/12/2021

Proposed completion of site investigation. 03/30/2023

### REMEDIAL ACTION DATES

Proposed start date of Remediation. 03/20/2023

Proposed date of completion of Remediation. 06/08/2023

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 the closure request as all impacts from the site have been removed below background specific or COGCC limits. Exceedances in SS-10 for TPH were excavated further and BH-1, along with SW-1 through 4 were collected in its place following further excavation. Exceedances for SS-5@2' , were further removed and SS-5@3' was collected in its place. Residential screening limits have been utilized, because the pathway to groundwater has been eliminated with its depth of 85', and the siltstone geology. Fundare is requesting backfill and no further action at the site. Upon approval of this backfill will be completed and the site with be reclaimed following the 1003 series reclamation rules, and will be returned to production.

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: 06/28/2023

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: Krystal Heibel

Date: 07/11/2023

Remediation Project Number: 30104

**COA Type****Description**

0 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**

403447946	INVESTIGATION/REMEDATION WORKPLAN (SUPPLEMENTAL)
403448208	REMEDATION PROGRESS REPORT
403448211	ANALYTICAL RESULTS
403448213	ANALYTICAL RESULTS
403448214	ANALYTICAL RESULTS
403448215	ANALYTICAL RESULTS
403448217	ANALYTICAL RESULTS
403448225	SITE MAP
403448226	SOIL SAMPLE LOCATION MAP
403448228	SITE MAP
403448231	SOIL SAMPLE LOCATION MAP
403459818	FORM 27-SUPPLEMENTAL-SUBMITTED

Total Attach: 12 Files

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

Environmental	COGCC approves Operator's request for use of Residential SSLs based on the depth to groundwater and the local lithology suggesting a pathway to groundwater at this location is not likely.	06/30/2023
Environmental	Based on the information presented, it appears that no further remedial action is necessary at this time and the COGCC approves the closure request. However, should future conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards or if groundwater is found to be impacted, then further investigation and/or remediation activities may be required.	06/30/2023

Total: 2 comment(s)