

# State of Colorado Oil and Gas Conservation Commission

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Document Number:

402823368

Receive Date:

09/30/2021

Report taken by:

RICK ALLISON

## Site Investigation and Remediation Workplan (Initial 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>FOUNDATION ENERGY MANAGEMENT LLC</u> | Operator No: <u>10112</u>                 | <b>Phone Numbers</b>         |
| Address: <u>5057 KELLER SPRINGS RD STE 650</u>            |   | Phone: <u>(303) 2448114</u>  |
| City: <u>ADDISON</u>                                      | State: <u>TX</u>                          | Zip: <u>75001</u>            |
| Contact Person: <u>Alyssa Beard</u>                       | Email: <u>abeard@foundationenergy.com</u> | Mobile: <u>(720) 2572302</u> |

### PROJECT, PURPOSE & SITE INFORMATION

#### PROJECT INFORMATION

Remediation Project #: 20368 Initial Form 27 Document #: 402823368

#### 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>PIT</u>         | Facility ID: <u>273446</u> | API #: _____                                   | County Name: <u>WELD</u>      |
| Facility Name: <u>STATE 36-16</u> |                            | Latitude: <u>40.611835</u>                     | Longitude: <u>-104.034734</u> |
|                                   |                            | ** correct Lat/Long if needed: Latitude: _____ | Longitude: _____              |
| QtrQtr: <u>SESE</u>               | Sec: <u>36</u>             | Twp: <u>8N</u>                                 | Range: <u>60W</u>             |
|                                   |                            | Meridian: <u>6</u>                             | Sensitive Area? <u>Yes</u>    |

#### SITE CONDITIONS

General soil type - USCS Classifications SM Most Sensitive Adjacent Land Use Private land, 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? Yes

## 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 |
|--------------|----------------|------------------|----------------|
| UNDETERMINED | SOILS          | Undetermined     | Undetermined   |

### INITIAL ACTION SUMMARY

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

FEM proposes to perform initial investigation of the pit (Facility ID 273446) at the State 36-16 location for site closure. FEM proposes to collect a minimum of one (1) soil sample from the area in the center of the tank battery pit and four (4) soil samples from the extents of the tank battery pit. Samples will be collected via hand auger or utilizing onsite equipment to a depth of approximately 0-6" from areas that show impacts (if apparent) or from the center and sidewalls of the pit if impacts are not present. Additionally, one (1) background sample will be collected from approximately 6" from a nearby unimpacted area for source area comparison. All six (6) soil samples will be analyzed for Table 915-1 organic constituents, and at least two (2) samples will be analyzed for the full suite of Table 915-1 constituents. Laboratory results will be presented in a subsequent Form 27S.

### 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 ):

FEM proposes to collect a minimum of one (1) soil sample from the area in the center of the tank battery pit and four (4) soil samples from the extents of the tank battery pit. Samples will be collected via hand auger or utilizing onsite equipment to a depth of approximately 0-6" from areas that show impacts (if apparent) or from the center and sidewalls of the pit if impacts are not present. Additionally, one (1) background sample will be collected from approximately 6" from a nearby unimpacted area for source area comparison. All six (6) soil samples will be analyzed for the full Table 915-1 suite of constituents of concern. Laboratory results will be presented in a subsequent Form 27S.

#### 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 \_\_\_\_\_ 0  
Number of soil samples exceeding 915-1 \_\_\_\_\_  
Was the areal and vertical extent of soil contamination delineated? \_\_\_\_\_  
Approximate areal extent (square feet) \_\_\_\_\_

### NA / ND

\_\_\_\_\_ Highest concentration of TPH (mg/kg) \_\_\_\_\_  
\_\_\_\_\_ Highest concentration of SAR \_\_\_\_\_  
\_\_\_\_\_ BTEX > 915-1 \_\_\_\_\_  
\_\_\_\_\_ Vertical Extent > 915-1 (in feet) \_\_\_\_\_

### 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?

One background sample will be collected from a nearby unimpacted area at approximately 6 inches below ground surface.

☐ 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

### SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

If required, source removal will be proposed in a subsequent Form 27-S remediation work plan once the sample results have been evaluated.

### 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.

The results of this investigation will be presented in a subsequent Form 27-S, and if further remediation is required a remediation work plan will be submitted for COGCC approval.

### Soil Remediation Summary

☐ In Situ

☐ Ex Situ

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

\_\_\_\_\_ Excavate and offsite disposal  
\_\_\_\_\_ If Yes: Estimated Volume (Cubic Yards) \_\_\_\_\_  
\_\_\_\_\_ 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.

## REMEDATION PROGRESS UPDATE

### PERIODIC REPORTING

#### Approved Reporting Schedule:

☐ Quarterly☐ Semi-Annually☐ Annually☒ Other

Results of this investigation will be submitted in a subsequent Form 27-S.

#### ☐ 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 Tank Battery Pit Confirmation Sample Summary Report

### 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 \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

Volume of E&P Waste (liquid) in barrels \_\_\_\_\_

E&P waste (liquid) description \_\_\_\_\_

COGCC Disposal Facility ID #, if applicable: \_\_\_\_\_

Non-COGCC Disposal Facility: \_\_\_\_\_

## 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.

If the initial investigation results do not indicate that further remediation is required, FEM proposes to backfill the pit area with backfill material and reseed the location with a seed mix approved by the landowner during the next favorable season. Weed spraying will be utilized for weed prevention until final reclamation has been achieved. Final reclamation will be performed in accordance with 1000 series 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? \_\_\_\_\_

If YES, does the seed mix comply with local soil conservation district recommendations? \_\_\_\_\_

Did the local soil conservation district provide the seed mix? \_\_\_\_\_

### 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). 09/30/2021

Proposed site investigation commencement. \_\_\_\_\_

Proposed completion of site investigation. \_\_\_\_\_

### 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

FEM proposes to perform initial investigation on the State 36-16 pit for site closure of Facility ID #273446. Source area and background soil samples will be collected to investigate the site for closure or further remediation. Results of the initial investigation will be presented in a subsequent Form 27-S, which will also include either a work plan for additional remediation or a no further action closure request based on the results of the initial investigation. This Form 27 refers only to closure of the pit at the State 36-16 battery. Fieldwork will be performed by Tasman Geosciences.

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

Signed: Alyssa Beard

Title: EHSR Manager

Submit Date: 09/30/2021

Email: regulatory@foundationenergy.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: RICK ALLISON

Date: 10/11/2021

Remediation Project Number: 20368

### Condition of Approval

#### COA Type

#### Description

|        |  |
|--------|--|
|        | At least one soil sample shall be collected from the area beneath the skim tank and analyzed for Table 915- 1 contaminants of concern.                             |
|        | Operator shall also analyze berm material and the surface soil beneath the berm foot print to demonstrate compliance with Table 915-1 soil suitability parameters. |
| 2 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.

| <u>Att Doc Num</u> | <u>Name</u>               |
|--------------------|---------------------------|
| 402823368          | FORM 27-INITIAL-SUBMITTED |
| 402827709          | SOIL SAMPLE LOCATION MAP  |

Total Attach: 2 Files

### General Comments

| <u>User Group</u> | <u>Comment</u> | <u>Comment Date</u> |
|-------------------|----------------|---------------------|
|                   |                | Stamp Upon Approval |

Total: 0 comment(s)