

State of Colorado Oil and Gas Conservation Commission

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Receive Date:

11/15/2019

Report taken by:

John Heil

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.

Refer to Rules 340, 905, 906, 907, 908, 909, and 910

OPERATOR INFORMATION

| | | |
|---|---|---|
| Name of Operator: <u>FOUNDATION ENERGY MANAGEMENT LLC</u> | Operator No: <u>10112</u> | Phone Numbers Phone: <u>(303) 2448114</u> Mobile: <u>()</u> |
| Address: <u>5057 KELLER SPRINGS RD STE 650</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> | |

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 11318 Initial Form 27 Document #: 401625423

PURPOSE INFORMATION

- | | |
|--|--|
| <input type="checkbox"/> 901.e. Sensitive Area Determination | <input type="checkbox"/> 909.c.(5), Rule 910.b.(4): Remediation of impacted ground water |
| <input checked="" type="checkbox"/> 909.c.(1), Rule 905: Pit or PW vessel closure | <input type="checkbox"/> Rule 909.e.(2)A.: Notice completion of remediation in accordance with Rule 909.b. |
| <input type="checkbox"/> 909.c.(2), Rule 906: Spill/Release Remediation | <input type="checkbox"/> Rule 909.e.(2)B.: Closure of remediation project |
| <input type="checkbox"/> 909.c.(3), Rule 907.e.: Land treatment of oily waste | <input type="checkbox"/> Rule 906.c.: Director request |
| <input type="checkbox"/> 909.c.(4), Rule 908.g.: Centralized E&P Waste Management Facility closure | <input type="checkbox"/> Other _____ |

SITE INFORMATION

N Multiple Facilities (in accordance with Rule 909.c.)

| | | | |
|---|----------------------------|---|--|
| Facility Type: <u>PIT</u> | Facility ID: <u>111776</u> | API #: _____ | County Name: <u>GARFIELD</u> |
| Facility Name: <u>FEDERAL 30-3 30-3</u> | | Latitude: <u>39.429043</u> | Longitude: <u>-109.032115</u> |
| | | ** correct Lat/Long if needed: Latitude: <u>39.429056</u> | Longitude: <u>-109.032331</u> |
| QtrQtr: <u>NENW</u> | Sec: <u>30</u> | Twp: <u>7S</u> | Range: <u>104W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u> |

SITE CONDITIONS

General soil type - USCS Classifications ML Most Sensitive Adjacent Land Use Federal - open rangeland

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

The Prairie Canyon an ephemeral drainage is located approximately 86 feet to the East.

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 |
|-----------|----------------|--------------------------------|----------------|
| No | SOILS | Not impacts exceed Table 910-1 | Soil 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.

Foundation is planning to collect soil samples at the Federal 30-3 pit location from the proposed sample locations on the attached map, with a hand auger decontaminated between each sample location.

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):

Foundation proposes to collect 5 samples by hand auger for the pit closure investigation - 1 base sample, and 4 sidewall samples. The sidewall samples will be collected and analyzed for pH, EC and SAR in addition to BTEX and TPH. The inorganic concentrations will be used to evaluate potential reclamation success.

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 5

Number of soil samples exceeding 910-1 0

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

Approximate areal extent (square feet) 0

NA / ND

ND Highest concentration of TPH (mg/kg)

-- Highest concentration of SAR 7.21

BTEX > 910-1 No

Vertical Extent > 910-1 (in feet) 0

Groundwater

Number of groundwater samples collected 0

Was extent of groundwater contaminated delineated? No

Depth to groundwater (below ground surface, in feet) 0'

Number of groundwater monitoring wells installed 0

Number of groundwater samples exceeding 910-1 0

-- 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

0 Number of surface water samples exceeding 910-1

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?

☐ 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.

Underlying soils within the pit do not exceed COGCC Table 910-1 thresholds.

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.

No remediation required at this time.

Soil Remediation Summary

☐ In Situ

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

☐ Ex Situ

_____ Excavate and offsite disposal
_____ If Yes: Estimated Volume (Cubic Yards) _____
_____ Name of Licensed Disposal Facility or COGCC Facility ID # _____
_____ Excavate and onsite remediation
_____ No Land Treatment
_____ No Bioremediation (or enhanced bioremediation)
_____ No Chemical oxidation
_____ No Other _____

Groundwater Remediation Summary

No _____ Bioremediation (or enhanced bioremediation)
No _____ Chemical oxidation
No _____ Air sparge / Soil vapor extraction
No _____ Natural Attenuation
No _____ 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.

Not anticipated at this time

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: ☐ Quarterly ☐ Semi-Annually ☐ Annually ☒ Other Final Closure

Report Type: ☐ Groundwater Monitoring ☐ Land Treatment Progress Report ☐ O&M Report

☒ Other Notcie of Completion (NOC)

WASTE DISPOSAL INFORMATION

Was E&P waste generated as part of this remediation? No

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: _____

REMEDIATION COMPLETION REPORT

REMEDIATION COMPLETION SUMMARY

Is this a Final Closure Request for this Remediation Project? Yes

Do all soils meet Table 910-1 standards? Yes

Does the previous reply indicate consideration of background concentrations? Yes

Are the only residual soil impacts pH, SAR, or EC at depths greater than 3 feet below ground surface? _____

Does Groundwater meet Table 910-1 standards? Yes

Is additional groundwater monitoring to be conducted? No

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.

This pit will be reclaimed in accordance with the COGCC 1000 Series Rules in addition to any SUA/COAs defined by the surface owner.
The pit will be reclaimed to the present grade of the location or to the approximate original contour of the landscape.
Seeding of the disturbed area will be performed in accordance with its intended use. The seed mix will be prescribed/approved by the landowner.

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 approve the seed mix? Yes

If NO, does the seed mix comply with local soil conservation district recommendations? Yes

IMPLEMENTATION SCHEDULE

PRIOR DATES

Date of Surface Owner notification/consultation, if required. _____

Actual Spill or Release date, if known. _____

SITE INVESTIGATION DATES

Date of Initial Actions described in Site Investigation Plan (start date). 04/17/2018

Date of commencement of Site Investigation. 04/17/2018

Date of completion of Site Investigation. 04/17/2018

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. 11/04/2019

Date of completion of Reclamation. 11/04/2019

OPERATOR COMMENT

Please forward onto John Heil.

Included in this Supplemental Form 27 is the analytical results for the sampling that occurred at the Federal 30-3 pit. No underlying soil impacts were observed during the site investigation & screening process. Confirmation samples collected on 4/17/19 by Foundation Energy indicated non-detections (ND) hydrocarbon concentrations as well as all other constituents being below COGCC Table 910-1 thresholds. The Initial Form 27 submitted on 5/3/18 and approved by the COGCC on 5/7/18 (Doc# 401625423) authorized the analyte list proposed for the pit base and side wall samples.

Foundation has corrected the lat and long associated with this pit ID (111776) and would like to request closure at this time.

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

Signed: Afton Iiams

Title: Office Assistant

Submit Date: 11/15/2019

Email: aiiams@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: John Heil

Date: 11/15/2019

Remediation Project Number: 11318

COA Type**Description**

| | |
|--|---|
| | Based on review of the information provided, it appears that no further action is necessary at this time and COGCC approves the closure request. Should conditions at the site indicate contaminant concentrations in soils exceeding COGCC standards, or, if groundwater is found to be significantly impacted, further investigation and/or remediation activities may be required at the site. |
|--|---|

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**

| | |
|-----------|--------------------------------|
| 402063409 | FORM 27-SUPPLEMENTAL-SUBMITTED |
| 402063826 | ANALYTICAL RESULTS |
| 402063829 | ANALYTICAL RESULTS |
| 402188496 | OTHER |
| 402188498 | SOIL SAMPLE LOCATION MAP |

Total Attach: 5 Files

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

| | | |
|--|--|---------------------|
| | | Stamp Upon Approval |
|--|--|---------------------|

Total: 0 comment(s)