

State of Colorado Oil and Gas Conservation Commission

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Document Number:

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Receive Date:

Report taken by:

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: FOUNDATION ENERGY MANAGEMENT LLC	Operator No: 10112	Phone Numbers Phone: (303) 2448114 Mobile: ()
Address: 5057 KELLER SPRINGS RD STE 650		
City: ADDISON	State: TX Zip: 75001	
Contact Person: Alyssa Beard	Email: abeard@foundationenergy.com	

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION

Remediation Project #: 13410

Initial Form 27 Document #: 401962561

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: PIT	Facility ID: 119480	API #:	County Name: GARFIELD
Facility Name: Federal #31-16 119480		Latitude: 39.373383	Longitude: -108.991444
		** correct Lat/Long if needed: Latitude:	Longitude:
QtrQtr: NWNE	Sec: 16	Twp: 8S	Range: 104W Meridian: 6 Sensitive Area? Yes

SITE CONDITIONS

General soil type - USCS Classifications SM

Most Sensitive Adjacent Land Use 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

An un-named ephemeral drainage is located approximately 91ft to the North-Northeast.

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	<Table 910-1	Field screening/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 31-16 pit location from the proposed sample locations in the attached map, with a hand auger decontaminated between each sample.

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 analyzed for EC, pH, and SAR assuming they are collected within 3' of the natural ground level. All samples collected will be analyzed for GBTEX and DRO. The samples will be preserved on ice and delivered to Summit Scientific in Golden, CO.

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 1
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 0

NA / ND

-- Highest concentration of TPH (mg/kg) 7.91
-- Highest concentration of SAR 0.343
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

-- 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?

Three (3) background soil samples were collected on 3/2/20 at a nearby location (Federal 28-9) which is approximately 3.24 miles to the north. The background samples collected were analyzed for pH, Arsenic, EC and SAR. Results of the samples show consistency with the arsenic exceedances observed at the Federal 31-16 location and are typical for the region.

☐ 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.

At the time of investigation, no production water or fluids were present within the pit. Subsurface soil investigation did not indicate that the soils exceeded Table 910-1 on the pit bottom or sidewalls, with the exception to arsenic.

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 is currently anticipated as consideration is being requested in accordance with FAQ 31 as arsenic exceedances are comparable to background levels for Praire Canyon.

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
_____ Yes Land Treatment
_____ Yes 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

REMEDATION PROGRESS UPDATE

PERIODIC REPORTING

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

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

☒ Other Notice 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: _____

REMEDATION COMPLETION REPORT

REMEDATION 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.

The 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 (BLM).

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). 04/08/2019

Date of commencement of Site Investigation. 04/08/2019

Date of completion of Site Investigation. 04/08/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. 06/03/2019

Date of completion of Remediation. 10/07/2019

SITE RECLAMATION DATES

Date of commencement of Reclamation. 09/01/2020

Date of completion of Reclamation. 09/01/2020

OPERATOR COMMENT

Please forward to John Heil.

Information within the Supp. Form 27 is related to the Federal 31-16 (Facility ID 119840) pit closure and includes initial investigation activities, field screening results, confirmation analytical data and soil sample location map. Samples were collected from the pit bottom surface, as well as at every 1-foot interval to a maximum depth of 5 feet. Soils were field screened with the instruments mentioned within the Initial Investigation and results indicated hydrocarbon concentrations did not exceed Table 910-1. A sample was collected from the bottom of the pit at 5 feet below the pit bottom (~9 feet below the pad surface) and analyzed for full Table 910-1. Samples were also collected from the side walls at a depth of ~1 foot laterally and analyzed for a reduced analyte list consisting of DRO/GRO/BTEX/Inorganics as approved in the Initial Form 27. All confirmation soil results indicate compliance with Table 910-1 with the exception to arsenic. Consideration is being requested in accordance with FAQ 31 as arsenic levels are comparable to other background levels in Praire Canyon.

Foundation Energy is requesting closure of the Federal 31-16 (Facility ID 119480) and REM #13410.

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

Signed: Alyssa Beard

Title: EHS Manager

Submit Date: _____

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: _____

Date: _____

Remediation Project Number: 13410

COA Type**Description**

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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**

402063942	ANALYTICAL RESULTS
402376301	ANALYTICAL RESULTS
402376303	ANALYTICAL RESULTS
402376570	ANALYTICAL RESULTS
402376574	SOIL SAMPLE LOCATION MAP
402376598	OTHER

Total Attach: 6 Files

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

		Stamp Upon Approval
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Total: 0 comment(s)