

State of Colorado
Oil and Gas Conservation Commission

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401995029
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Report taken by:
John Heil

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.

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
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>()</u>

PROJECT, PURPOSE & SITE INFORMATION

PROJECT INFORMATION
Remediation Project #: 15044 Initial Form 27 Document #: 401995029

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>119456</u>	API #: _____	County Name: <u>GARFIELD</u>
Facility Name: <u>1-8</u>	Latitude: <u>39.384116</u>	Longitude: <u>-109.005278</u>	
** correct Lat/Long if needed: Latitude: _____		Longitude: _____	
QtrQtr: <u>SENE</u>	Sec: <u>8</u>	Twp: <u>8S</u>	Range: <u>104W</u> Meridian: <u>6</u> Sensitive Area? <u>Yes</u>

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? Yes

Is groundwater less than 20 feet below ground surface? Yes

Other Potential Receptors within 1/4 mile

An un-named dry ephemeral drainage is present at approximately 1,007 ft to the south with an elevation difference of ~31ft.

SITE INVESTIGATION PLAN

TYPE OF WASTE:

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> E&P Waste | <input type="checkbox"/> Other E&P Waste | <input type="checkbox"/> Non-E&P Waste |
| <input checked="" type="checkbox"/> Produced Water | <input type="checkbox"/> Workover Fluids | _____ |
| <input type="checkbox"/> Oil | <input type="checkbox"/> Tank Bottoms | |
| <input type="checkbox"/> Condensate | <input type="checkbox"/> Pigging Waste | |
| <input type="checkbox"/> Drilling Fluids | <input type="checkbox"/> Rig Wash | |
| <input type="checkbox"/> Drill Cuttings | <input type="checkbox"/> Spent Filters | |
| | <input type="checkbox"/> Pit Bottoms | |
| | <input type="checkbox"/> Other (as described by EPA) | _____ |

DESCRIPTION OF IMPACT

Impacted?	Impacted Media	Extent of Impact	How Determined
UNDETERMINED	SOILS	TBD	Field screening & 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.

At the location(s) of the pit which are the furthest downgradient, lowest in elevation and/or have the potential for pooling of liquid, field-screening will be performed and will utilize appropriate field equipment which may include, but is not limited to the following:
 -PetroFlag unit
 -Photoionization gas detector (PID),
 Confirmation sample(s), Rule 905.b.(4), will be collected and submitted for lab analysis for COGCC Table 910-1 thresholds. (BTEX, GRO, DRO, Metals, PAH, EC/pH and SAR).
 Grab samples will be collected, as appropriate, to demonstrate diligence and thoroughness of investigation activities performed as directed in Rule 905.b. (1).

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 five (5) soil samples by hand auger for the pit closure investigation - 1 base sample (Full 910-1), and 4 sidewall samples (hydrocarbons and inorganics). The sidewall samples will be analyzed for BTEX, GRO, DRO, EC/pH and SAR.

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? No
Approximate areal extent (square feet) 0

NA / ND

NA Highest concentration of TPH (mg/kg) _____
NA Highest concentration of SAR _____
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

NA Highest concentration of Benzene (µg/l) _____
NA Highest concentration of Toluene (µg/l) _____
NA Highest concentration of Ethylbenzene (µg/l) _____
NA Highest concentration of Xylene (µg/l) _____
NA 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

SOURCE REMOVAL SUMMARY

Describe how source is to be removed.

If during the site investigation process impacted soils are discovered exceeding COGCC Table 910-1 thresholds, soils will be excavated via backhoe/trackerhoe and placed within a treatment cell onsite to be landfarmed upon approval from the BLM and COGCC.

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.

TBD

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
_____ Land Treatment
_____ Bioremediation (or enhanced bioremediation)
_____ Chemical oxidation
_____ 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 _____

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

Other _____

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.

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). 04/07/2019

Date of commencement of Site Investigation. 04/07/2019

Date of completion of Site Investigation. 04/07/2019

REMEDIAL ACTION DATES

Date of commencement of Remediation. _____

Date of completion of Remediation. _____

SITE RECLAMATION DATES

Date of commencement of Reclamation. _____

Date of completion of Reclamation. _____

OPERATOR COMMENT

Please forward onto John Heil

This Initial Form 27 is being submitted to outline the site investigation process for the closure of the small earthen blowdown pit (Facility ID 119546) located on the Government 1-8 well pad and to obtain a REM#.

Additional information will be submitted via Supp. Form 27 (field screening, analytical data, revised map's) as well as an approved BLM Sundry Notice providing approval to conduct landfarming should it be required.

Currently, only one (1) onsite pit is visible on location; however, the search under the Government 1-8 location (Facility ID 322408) within the COGCC database indicates four (4) pits containing facility ID's. Additionally, research indicates that only (Facility ID 119456) is referenced with the correct operator and the other three (3) facility IDs reference incorrect operator names. Therefore this Initial Form 27 only pertains to (Facility ID 119456), the other pits will be addressed with individual Initial Form 27's once the operator name is corrected to Foundation Energy.

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: 02/03/2020

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: John Heil

Date: 02/03/2020

Remediation Project Number: 15044

COA Type

Description

	At least one discrete, representative sample collected from the pit bottom shall be analyzed for the complete Table 910-1 list (including EC, SAR, pH, and PAHs). If the PAHs are nondetect, the operator may request a reduced analyte suite via a Supplemental eForm 27.
	At a minimum, collect soil samples from the proposed treatment areas at a frequency to establish a rate of biodegradation. Samples shall be collected consistently from the same approximate locations during each sampling event.
	Land Treatment of oily waste shall be performed in strict accordance with the requirements of COGCC Rule 907.e.(2).
	COGCC EPS staff should be notified immediately, in the event that groundwater is encountered during investigation

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>
401995029	FORM 27-INITIAL-SUBMITTED
402153084	SOIL SAMPLE LOCATION MAP
402301680	SOIL SAMPLE LOCATION MAP

Total Attach: 3 Files

General Comments

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

Total: 0 comment(s)