

State of Colorado
Oil and Gas Conservation Commission

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Report taken by:
BOB CHESSON

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: (720) 2572302
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 #: 17115 Initial Form 27 Document #: 402618586

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 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 checked="" 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 checked="" type="checkbox"/> Other Site Investigation Summary to close out spill and NFA request

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

Facility Type: SPILL OR RELEASE	Facility ID: 441827	API #:	County Name: WELD
Facility Name: SPILL/RELEASE POINT	Latitude: 40.132900	Longitude: -104.473240	
** correct Lat/Long if needed: Latitude:		Longitude:	
QtrQtr: SWSE	Sec: 18	Twp: 2N	Range: 63W Meridian: 6 Sensitive Area? No

SITE CONDITIONS

General soil type - USCS Classifications SC 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

None identified.

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 checked="" 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	See Lab Results & Figure 2	Soil investigation and Laboratory Analysis

INITIAL ACTION SUMMARY

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

Initial actions and completed remedial measures have previously been submitted to the COGCC in the Form 19 Initial (Document# 400841189), and in the Form 19 Supplemental (Document #400844930 and # 402621831). The COGCC issued a spill tracking facility ID #441827 for the Site. The impacts were initially discovered on May 18, 2015 and believed the historical spill was from a stuffing box leak near the wellhead and otherwise unknown origins. The well was shut in to repair the stuffing box and a vacuum truck was used to remove the impacted material. Impacted material was hauled offsite and clean backfill material was used to fill the area that was removed.

Based on historical review and discussion with COGCC, it does not appear that confirmation sampling was completed onsite to determine that impacted material was delineated and removed. Foundation Energy Management (FEM) submitted an Initial F27 remediation workplan (#402618586) to the COGCC that was approved and COGCC assigned remediation number (REM#) #17115 to the Site. FEM completed soil delineation activities on March 26, 2021 in the four cardinal directions around the wellhead and in two background locations to determine the horizontal and vertical impacts to soil (if any) associated with the historical release the Site. The results of the soil delineation and investigation activities are provided herein including a request for approval of no further action (NFA) and closure of the project.

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 completed soil delineation activities that included advancing six soil borings (SB01 – SB06) using a hand auger and collection of samples from around the wellhead and release area illustrated on Figure 2. Six soil samples that included two background samples were collected and analyzed for the Table 915-1 constituents by Summit Scientific, and the results are provided in Tables 1 through 3. Based on the results being below the Table 915 residential and/or risk-based soil standards and groundwater was not present, FEM does not believe further soil investigation activities are needed and proposes to close the historical spill. Since there is no indication of impacts or adverse effects to human-health or the environment and the results appear to be natural Site conditions, FEM is requesting NFA approval from COGCC for REM# 17115.

Proposed Groundwater Sampling

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

Groundwater has not been encountered at the Site and sampling is not anticipated at this time for this Site. Based on the soil results being below the COGCC 915 standards and groundwater was not encountered during the investigation FEM requests approval from the COGCC for Site closure and NFA for the release associated with REM# 17115.

Proposed Surface Water Sampling

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

Not Anticipated. If site conditions warrant, the need for future monitoring at surface water locations will be evaluated.

Additional Investigative Actions

Additional alternative investigative actions described in attached Site Investigation Plan (summary):

A pumper mobilized to the location on 5/18/2015 and it was discovered that the stuffing box had developed a leak and approximately <5 bbls were released near the wellhead in an area approximately 15 feet by 5 feet. The well was shut-in to repair the stuffing box and a vacuum truck was utilized to remove the visually impacted material. The stuffing box packing was also replaced, and the pumper continued to monitor the stuffing box for additional repairs if necessary. Groundwater was not encountered during the any onsite activities and is believed to be more than 30 feet below ground surface and not anticipated to have a pathway to groundwater.

SITE INVESTIGATION REPORT

SAMPLE SUMMARY

Soil

Number of soil samples collected 6
Number of soil samples exceeding 910-1 0
Was the areal and vertical extent of soil contamination delineated? Yes
Approximate areal extent (square feet) 150

NA / ND

ND Highest concentration of TPH (mg/kg) _____
-- Highest concentration of SAR 7.65
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)
Number of groundwater monitoring wells installed _____
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
 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.

As previously reported in the Form 19 Supplemental (Document #400844930) initial source remediation efforts were performed in May 2015, which included removing impacted material from the release area at the Site. With COGCC approval per the F271, FEM defined the horizontal and vertical extents and impacts were not present at the Site associated with the historical release. The borings were backfilled to match pre-existing conditions. The initial source area and background soil results indicate that further source removal or investigation is not needed.

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.

Following the completion of the approved soil investigation workplan (#402618586) and laboratory results (Tables 1-3 and Figure 2), additional remediation efforts and/or treatment of soils associated with the Site will not be needed. The laboratory results demonstrate that soil impacts are below COGCC Table 915-1 standards and within the local background conditions at the Site, a no further action (NFA) determination for the Site is being requested from the COGCC.

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

- _____ 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.

Groundwater monitoring is currently not being performed and was not encountered during the soil investigation and delineation activities.

REMEDIATION PROGRESS UPDATE

PERIODIC REPORTING

Frequency: Quarterly Semi-Annually Annually Other Soil Investigation Report and NFA request

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: _____

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? _____

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 soil borings were backfilled and compacted to existing grade. No additional reclamation is planned at this time. The spill was on the gravel well pad and the well location is active.

Is the described reclamation complete? _____

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? _____

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

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). 05/18/2015

Date of commencement of Site Investigation. _____

Date of completion of Site Investigation. 03/26/2021

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

As detailed within this Supplemental Form 27 and based on the laboratory results and other information presented herein, FEM does not propose to complete additional investigation activities associated with this historical release. Further, FEM does not believe that the inorganic or general chemistry concentrations exhibited during this investigation are associated with the historical operation or the release at the Site and are within the Site and Regional background levels, represent normal variations for shallow soils in the State of Colorado nor do these constituents pose a risk to the surrounding land use, human-health or the environment. The arsenic concentrations are also within the background levels for the for agricultural/rangeland. With COGCC approval, FEM request that a no further action determination for this historical release be approved in order to close out the spill associated with the Kaufman #4 wellhead (Spill/Point Release ID 441827). The analytical results, laboratory report and soil boring logs have been attached to this Form 27S for reference.
Thank you

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: 04/16/2021 _____

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: BOB CHESSON _____

Date: 05/05/2021 _____

Remediation Project Number: 17115 _____

Condition of Approval**COA Type****Description**

0 COA	
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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**

402661031	FORM 27-SUPPLEMENTAL-SUBMITTED
402661238	ANALYTICAL RESULTS

Total Attach: 2 Files

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

Environmental	<p>This no further action determination is limited to environmental remediation. Operator is required to comply with COGCC 1100 Series Rules for Flowline Regulations for all Flowline Abandonment activities and COGCC 400 Series Rules for Wellhead Plugging and Abandonment.</p> <p>The surface area disturbed by the remediation activity shall be reclaimed in accordance with the 1000 Series Reclamation Rules. For locations with active ongoing oil and gas operations, comply with Rule 1003 interim reclamation requirements and for locations that will no longer have active oil and gas operations, comply with Rule 1004 Final Reclamation requirements.</p>	05/05/2021
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Total: 1 comment(s)