

# State of Colorado Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



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## SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

OGCC Employee:

☐ Spill ☐ Complaint

☐ Inspection ☐ NOAV

Tracking No:

### CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☒ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☐ Site/Facility Closure ☐ Other (describe): \_\_\_\_\_

OGCC Operator Number: 10112

Name of Operator: Foundation Energy Management, LLC

Address: 16000 Dallas Parkway, Suite 875

City: Dallas State: TX Zip: 75248

Contact Name and Telephone:

Rachel Eisterhold

No: 918-526-5592

Fax: 918-585-1660

API Number: 05-013-06289

County: Boulder

Facility Name: MD Davison

Facility Number: NA

Well Name: MD Davison

Well Number: 27-4

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWNW, 27, 1S, 69W Latitude: 39.94152 Longitude: -105.1069

### TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): crude oil, produced water

**Site Conditions:** Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Livestock (off-season), oil/gas operations

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: tight, compacted clay

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Several water wells (8) within 1/2 mile from location as well as surface water close to location (~40').

**Description of Impact** (if previously provided, refer to that form or document):

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

Full extent to be determined

NA

No groundwater encountered at 8' deep

NA

How Determined:

Saturated soil under

Release on well pad

Clean sample taken at soil adjacent to surface water (40' from location)

### REMEDIALATION WORKPLAN

**Describe initial action taken** (if previously provided, refer to that form or document):

Upon removing equipment for the PA'd-well location, hydrocarbon impacted soil was discovered underneath the produced water vault. COGCC was notified via a Form 19 that was submitted on 10/2/2014.

**Describe how source is to be removed:**

Approximately 30 cubic yards of contaminated dirt has been excavated from the spill area and retained on location. This soil will be taken to an approved landfill and manifest tickets will be submitted with final Form 27A upon completion.

**Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, insitu bioremediation, burning of oily vegetation, etc.:**

Soil borings completed as monitoring wells were drilled on October 24, 2014 to a depth of 12' bgs. Soil samples were collected from five of the boring locations (MW-1 through MW-5) at 3.5' bgs. A soil sample was collected at 8' bgs from MW-6 as this interval corresponded with the highest PID reading, but analytical results were below the Table 910-1 standard. Only the soil sample from MW-4@3.5' was above state standards for TPH and benzene. Soil was not impacted below 5 feet, however. The soil in the vicinity of MW-4 will be remediated using a dig and haul method and confirmation sample(s) will be collected and analyzed for BTEX and TPH. Surface water was present in the excavation, but does not appear to be groundwater as water has been slow to enter the monitoring wells. Water was present in MW-4 and MW-5 on October 30 and a sample was collected; laboratory results for BTEX are pending. This may represent a perched water table. Impacted soil will be hauled to an approved landfill and manifest tickets will be obtained for submittal upon completion. The excavation will be brought to grade with clean backfill and reclaimed as necessary.



REMEDIAL WORKPLAN (Cont.)

Tracking Number: \_\_\_\_\_  
Name of Operator: Foundation Energy  
OGCC Operator No: 10112  
Received Date: \_\_\_\_\_  
Well Name & No: MD Dawson 27-4  
Facility Name & No: \_\_\_\_\_

OGCC Employee: \_\_\_\_\_

**If groundwater has been impacted, describe proposed monitoring plan** (# of wells or sample points, sampling schedule, analytical methods, etc.):

Soil borings were completed as monitoring wells, but water has been slow to enter the wells due to the tight clay soils. Water was present in MW-4 and MW-5, and a sample was collected October 30th. Laboratory results for BTEX are pending. A surface water sample (SS-01) was collected from the excavation and analytical results were non-detect. In addition, a surface water sample was collected from a canal approximately 40-feet south and downstream of the tank battery. Analytical results in this sample (SS-02) were non-detect.

**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. Use additional sheet for description if required.

Reclamation will take place once the remediation is complete and the entire location will be reclaimed to post-plug standards. We will collaborate with the surface owner to determine the appropriate seed mix, install fencing as needed and BMPs to prevent stormwater erosion.

**Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.**

**Is further site investigation required?** ☒ Y ☐ N If yes, describe:

Further analytical data is needed to show the entire extent of the excavation is within state standards prior to closing out the remediation project. Water analytical results from MW-4 and MW-5 are pending from Summit Scientific laboratory.

**Final disposition of E&P waste** (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

The contaminated soil will be hauled to the closest appropriate landfill (to be determined) and manifest tickets will be obtained for submittal upon completion of the remediation.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>10/24/2014</u>	Date Site Investigation Completed: _____	Date Remediation Plan Submitted: <u>11/6/2014</u>
Remediation Start Date: <u>10/24/2014</u>	Anticipated Completion Date: <u>12/31/2014</u>	Actual Completion Date: _____

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

Print Name: Rachel A. Grant Signed: \_\_\_\_\_

Title: Sr. HSE/Regulatory Tech Date: 11/6/2014

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_