

State of Colorado
Oil and Gas Conservation Commission1120 Lincoln Street, Suite 801, Denver, Colorado 80203
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Date Received:

UNDERGROUND INJECTION FORMATION PERMIT APPLICATION

Per Rule 325, this form shall be submitted with all required attachments.

A Form 31 – Intent shall be submitted and approved prior to completing an injection zone.

A Form 31 – Subsequent shall be submitted following collection of water samples and injectivity test (if performed) and must be approved prior to injection in any new injection facility.

NOTE: Per Rule 324B, an aquifer exemption is required for any injection formation with water quality less than 10,000 mg/L total dissolved solids (TDS). Contact the Commission for further requirements if the TDS as determined by water analysis for the injection zone is less than 10,000 mg/L.

Form 31 Type

☒ Intent☐ Subsequent

UIC Facility ID 0

UIC Facility ID Required for Subsequent
Form 31

UIC FACILITY INFORMATION

Facility Name and Number: Mule Waterflood Unit

County: WELD

Facility Location: NENE / 1 / 7N / 60W / 6

Field Name and Number:

CROW

13600

Facility Type: ☒ Enhanced Recovery☐ Disposal☐ Simultaneous Disposal

Single or Multiple Well Facility?

☐ Single☒ Multiple

Proposed Injection Program (Required):

Due to the D Sand inclination in the Mule reservoir, the proposed water flood pattern is to inject in the water leg and sweep from west to east in a systematic pattern as the water front encroaches the respective wells, as well as, reinject all produced gas back into the gas cap to aid pressure maintenance. The Green 1-1 is the current candidate for conversion to water injection, as it is the lowest well structurally and has seen a strong presence of water encroachment. The Wickstrom 6-12 is the current candidate to convert to gas injection as it is the highest well structurally and is in the gas cap. The Green 1-7 & 1-11 are new drill locations located at NESW Section 1 T7N-R60W, 6 PM & SWNE Section 1 T7N-R60W, 6 PM, to help explore and develop the southern portion of the reservoir and the water flood.

OPERATOR INFORMATION

OGCC Operator Number: 10112

Name of Operator: FOUNDATION ENERGY MANAGEMENT LLC

Address: 16000 DALLAS PARKWAY #875

City: DALLAS

State: TX

Zip: 75248-6607

Contact Name and Telephone:

Name: Scott Ryan

Phone: (303) 2448112

Fax: (303) 8610604

Email: sryan@foundationenergy.com

INJECTED FLUID TYPE

All injected fluids must be Exempt E&P waste per RCRA Subpart C.

(Check all that apply.)

☒ Produced Water☒ Natural Gas☐ CO2☐ Drilling Fluids☐ Exempt Gas Plant Waste☐ Used Workover Fluids☒ Flowback Fluids☐ Other Fluids (describe):

Commercial Disposal Facility

☐ Yes☒ No

Commercial UIC Bond Surety ID:

Commercial Facility Description: Describe the physical region of the facility, the details of the operations, and the type of fluids to be injected.

PROPOSED INJECTION FORMATIONS

FORMATION (Name): D SAND Porosity: 12 %
Formation TDS: 12332 mg/L Frac Gradient: 0.5 psi/ft Permeability: 47 mD
Proposed Stimulation Program: ☐ Acid ☐ Frac Treatment ☐ None

ANTICIPATED FACILITY OPERATIONS CONDITIONS

Under normal operating conditions, estimated TOTAL fluid injection rates and pressures for this facility:

FOR WATER: Daily Injection Rate Range From 0 to 550 bbls/day
Surface Injection Pressure Range From 0 to 2000 psi
FOR GAS: Daily Injection Rate Range From 0 to 550 mcf/day
Surface Injection Pressure Range From 400 to 3100 psi

Estimated Initial Injection Date: 5/1/2016

AREA OF REVIEW OIL and GAS WELL EVALUATION SUMMARY

Review all existing wells within 1/2 mile for injection formation isolation.

Area Review Date: 3/18/2016

Total number of Oil & Gas Wells within Area of Review: 6

ABANDONED WELLS (All wells that have been plugged: PA and DA status))

Total within Area of Review	<u>2</u>
Number To Be Re-Plugged	<u>0</u>

ACTIVE WELLS (All wells that have not been plugged: AC, DG, DM, IJ, PR, SU, SI, TA, WO, XX, UN status)

Total within Area of Review	<u>4</u>
Number Requiring Casing Repair	<u>0</u>
Number To Be Plugged	<u>0</u>

Operator's Area of Review Contact Email: nhutton@foundationenergy.com

☐ No Wells within 2,640'

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

Print Name: Scott Ryan Signed: _____

Title: Landman Date: _____

COGCC Approved: _____ Date: _____

Form 31 - Intent Expiration Date: _____

Per Rule 325.o, a 90 day extension of the Expiration Date may be requested via a Sundry Notice, Form 4 submitted prior to Form 31- Intent expiration

Order Number: _____ UIC FACILITY ID: 0

CONDITIONS OF APPROVAL, IF ANY:

COA Type	Description	
<u>Attachment Check List</u>		
<u>Att Doc Num</u>	<u>Name</u>	
401011816	OTHER	
401011817	SURFACE FACILITY DIAGRAM	
401011819	OTHER	
401011844	AREA OF REVIEW-COGCC EVALUATION	
401025656	OFFSET WELL EVALUATION	
401031770	MAXIMUM SURFACE INJECTION PRESSURE DETERMINATION	
401031777	WELLBORE DIAGRAM-CURRENT	
401031779	WELLBORE DIAGRAM-PROPOSED	
401031780	WELLBORE DIAGRAM-CURRENT	
401031782	WELLBORE DIAGRAM-PROPOSED	
401032341	MAP OF O&G WELLS IN AREA OF REVIEW	
Total Attach: 11 Files		
<u>General Comments</u>		
<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Total: 0 comment(s)		