

State of Colorado Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

Document Number:

401248642

Date Received:

08/11/2017

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 [X] Intent [ ] Subsequent UIC Facility ID 160009 UIC Facility ID Required for Subsequent Form 31

UIC FACILITY INFORMATION

Facility Name and Number: Greasewood North County: WELD

Facility Location: SWNE / 23 / 6N / 61W / 6 Field Name and Number: GREASEWOOD SOUTH 32700

Facility Type: [X] Enhanced Recovery [ ] Disposal [ ] Simultaneous Disposal

Single or Multiple Well Facility? [X] Single [ ] Multiple

Proposed Injection Program (Required):

The proposed plan is to inject into the "D" sand formation and provide pressure support to the wells located to the north west (Babb 14-14 and Kettl 23-3). Inject natural gas or combination of natural gas and water into Behring 23-7 since it is the highest well structurally.

OPERATOR INFORMATION

OGCC Operator Number: 10112 Contact Name and Telephone: Rachel Grant
Name of Operator: FOUNDATION ENERGY MANAGEMENT LLC
Address: 16000 DALLAS PARKWAY #875 Phone: (918) 526-5592 Fax: (918) 585-1660
City: DALLAS State: TX Zip: 75248-6607 Email: regulatory@foundationenergy.com

INJECTED FLUID TYPE

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

(Check all that apply.)

[X] Produced Water [X] Natural Gas [ ] CO2 [ ] Drilling Fluids

[ ] Exempt Gas Plant Waste [ ] Used Workover Fluids [ ] Flowback Fluids

[ ] Other Fluids (describe):

Commercial Disposal Facility [ ] Yes [X] 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: 15 %  
Formation TDS: 8943 mg/L Frac Gradient: 0.75 psi/ft Permeability: 50 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 1000 bbls/day  
Surface Injection Pressure Range From 0 to 2040 psi  
FOR GAS: Daily Injection Rate Range From 0 to 1500 mcf/day  
Surface Injection Pressure Range From 0 to 5000 psi

Estimated Initial Injection Date: 9/1/2017

**AREA OF REVIEW OIL and GAS WELL EVALUATION SUMMARY**

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

Area Review Date: 3/31/2017

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

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

Total within Area of Review   
Number To Be Re-Plugged

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   
Number Requiring Casing Repair   
Number To Be Plugged

Operator's Area of Review Contact Email: aanderson@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: Rachel Grant Signed: \_\_\_\_\_

Title: HSE/Regulatory Manager Date: 8/11/2017 9:25:37 AM

COGCC Approved:  Date: 12/20/2017

Form 31 - Intent Expiration Date: 06/20/2018

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: 4-5 UIC FACILITY ID: 160009

CONDITIONS OF APPROVAL, IF ANY:

<b>COA Type</b>	<b>Description</b>
	1. Injection is not authorized until approval of SUBSEQUENT Forms 31 and 33. 2. Retrieve water sample(s) from injection zone(s) before stimulating formation. Samples must be analyzed for Total Dissolved Solids at a minimum. 3. PRIOR TO PERFORMING OPERATIONS: Operator is required to A. contact COGCC to discuss and B. file a Form 4-Sundry Notice to document design of proposed Step Rate or Injectivity Test for Maximum Surface Injection Pressure determination. 4. PRIOR TO PERFORMING OPERATIONS: Operator is required to A. contact COGCC to discuss and B. file a Form 4-Sundry Notice to document any proposed Hydraulic Fracturing and Acidizing jobs. 5. An MIT with tubing set in final configuration for injection is required for approval of SUBSEQUENT Forms 31 and 33.

**Attachment Check List**

<b>Att Doc Num</b>	<b>Name</b>
2618738	CORRESPONDENCE-CDPHE REQUEST FOR AQ EXEMPTION
2618739	CORRESPONDENCE-EPA REQUEST FOR AQ EXEMPTION
401248642	FORM 31-INTENT-SUBMITTED
401297422	MAP OF WATER WELLS ¼-MILE
401297423	OIL & GAS WELL PLAT
401297436	WELLBORE DIAGRAM-CURRENT
401298167	UNIT AREA PLAT
401310456	SURFACE USE AGREEMENT FOR SALT WATER DISPOSAL
401310669	REMEDIAL CORRECTION PLAN FOR WELLS ¼-MILE
401313675	LIST OF WATER WELLS ¼-MILE
401314455	OTHER-UNITIZATION-ENGINEERING
401314457	OTHER-UNITIZATION-GEOLOGY
401314502	MAP OF O&G WELLS IN AREA OF REVIEW
401314573	WELLBORE DIAGRAM-PROPOSED
401327564	OTHER-UNITIZATION ORDER 4-5
401352351	OTHER-AOR IMPORT TABLE
401352488	SURFACE FACILITY DIAGRAM
401352505	OTHER-UNITIZATION DOCS

Total Attach: 18 Files

**General Comments**

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
UIC	No water wells within 1/2-mile. Two closest water wells are about 4700 ft west (proposed to 300 ft-drilled?) and 4700 ft east (232 ft deep).	12/08/2017
UIC	At operator's request changed the name of the facility from Greasewood South to Greasewood North.	10/26/2017

Total: 2 comment(s)