

State of Colorado Oil and Gas Conservation Commission

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FOR OGCC USE ONLY Document Number: 401014580 Date Received: 06/21/2016

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 159996 UIC Facility ID Required for Subsequent Form 31

UIC FACILITY INFORMATION

Facility Name and Number: Arikaree Creek Pilot Unit County: LINCOLN Facility Location: SESE / 15 / 6S / 54W / 6 Field Name and Number: ARIKAREE CREEK 2914 Facility Type: [X] Enhanced Recovery [ ] Disposal [ ] Simultaneous Disposal Single or Multiple Well Facility? [ ] Single [X] Multiple

Proposed Injection Program (Required):

Waterflood - See attached COGCC ruling

OPERATOR INFORMATION

OGCC Operator Number: 10399 Contact Name and Telephone: Name: Joyce Henkin Name of Operator: NIGHTHAWK PRODUCTION LLC Address: 1805 SHEA CENTER DR #290 Phone: (303) 407-9609 Fax: (303) 407-8790 City: HIGHLANDS RANCH State: CO Zip: 80129 Email: joycehenkin@nighthawkenergy.com

INJECTED FLUID TYPE

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

(Check all that apply.)

- [X] Produced Water [ ] Natural Gas [ ] CO2 [X] Drilling Fluids [ ] Exempt Gas Plant Waste [X] Used Workover Fluids [X] Flowback Fluids

[ ] Other Fluids (describe):

Empty text box for describing other fluids.

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): SPERGEN Porosity: 13 %  
Formation TDS: 182253 mg/L Frac Gradient: 0.712 psi/ft Permeability: 40 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 1000 to 2000 bbls/day  
Surface Injection Pressure Range From 0 to 1000 psi  
FOR GAS: Daily Injection Rate Range From \_\_\_\_\_ to \_\_\_\_\_ mcf/day  
Surface Injection Pressue Range From \_\_\_\_\_ to \_\_\_\_\_ psi

Estimated Initial Injection Date: 10/1/2016

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

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

Area Review Date: 6/21/2016

Total number of Oil & Gas Wells within Area of Review: 12

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

Total within Area of Review	2
Number To Be Re-Plugged	0

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	10
Number Requiring Casing Repair	0
Number To Be Plugged	0


Operator's Area of Review Contact Email: Koehler COGCC 9-29-16

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: Joyce Henkin Signed: \_\_\_\_\_

Title: Production Tech Date: 6/21/2016 1:47:23 PM

COGCC Approved:  Date: 10/26/2016

Form 31 - Intent Expiration Date: 04/26/2017

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: 556-2 UIC FACILITY ID: 159996

CONDITIONS OF APPROVAL, IF ANY:

<b>COA Type</b>	<b>Description</b>
	Operator required to file Form 4 Sundry Notice with all formation tops from surface to at least top of Niobrara as shown on Scout Card.
	Injection is not authorized until approval of Subsequent Forms 31 and 33.

### Attachment Check List

<b>Att Doc Num</b>	<b>Name</b>
2377751	ORDER
2493898	ANALYSIS OF INJECTION ZONE
400666110	CEMENT BOND
400724428	CEMENT BOND
400724430	TRIPLE COMBINATION
401014580	FORM 31-INTENT-SUBMITTED
401065369	STEP RATE/INJECTIVITY TEST DOCUMENTATION
401065378	WELLBORE DIAGRAM-CURRENT
401065379	WELLBORE DIAGRAM-PROPOSED
401065430	ANALYSIS OF INJECTION WATER
401066149	NOTICE TO SURFACE & MINERAL OWNERS
401066153	CORRESPONDENCE-HEARING NOTICE
401066159	LIST OF MINERAL OWNERS ¼-MILE
401066166	SURFACE FACILITY DIAGRAM
401066168	MAP OF MINERAL OWNERS ¼-MILE
401066177	CORRESPONDENCE-OPERATOR UNIT APPLICATION
401066286	OTHER
401121129	AREA OF REVIEW-COGCC EVALUATION
401121130	AREA OF REVIEW-COGCC EVALUATION
401136991	OFFSET WELL EVALUATION
401136992	ANALYSIS OF INJECTION WATER

Total Attach: 21 Files

### General Comments

<b>User Group</b>	<b>Comment</b>	<b>Comment Date</b>
UIC	Form 2 for Recompletion has been filed and will be approved in due course.	10/26/2016 6:53:19 AM
UIC	Operator is using data from Arikaree Creek SWD #1 for Maximum Surface Injection Pressure/Step Rate Test. CBLs and Triple Combo logs filed with Form 5s for Blackcomb 12-14 and Snowbird 14-16. Formation water samples available from other wells in the area, Snow King 13-33, Silverton 16-10, and Keystone 3-7; TDS is greater than 10,000 mg/L.	10/24/2016 12:39:11 PM
UIC	Operator says that Arikaree Creek SWD #1 (API: 073-06571) in NW corner of Arikaree Creek Pilot Unit will continue to be used as a disposal well for the entire Arikaree Creek Field. Disposal in the Arikaree Creek SWD #1 occurs in the Simpson Formation.	9/30/2016 11:36:09 AM
UIC	Approved Unit Agreement will become effective on July 11, 2016 (35 days) if no appeals = Order 556-2	6/27/2016 3:50:53 PM

Total: 4 comment(s)