

FORM

2

Rev
12/05

State of Colorado

Oil and Gas Conservation Commission

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



Document Number:

2486399

Date Received:

04/18/2013

PluggingBond SuretyID

APPLICATION FOR PERMIT TO:

1. ☒ Drill, ☐ Deepen, ☐ Re-enter, ☐ Recomplete and Operate

2. TYPE OF WELL

OIL ☐ GAS ☐ COALBED ☐ OTHER ☐ Strat test ☐
 SINGLE ZONE ☐ MULTIPLE ☐ COMMINGLE ☐

Refiling ☐Sidetrack ☐3. Name of Operator: US GEOLOGICAL SURVEY4. COGCC Operator Number: 103875. Address: MS 939 BOX 25046City: DENVER State: CO Zip: 802256. Contact Name: SARAH HAWKINS Phone: (303)236-5767 Fax: (303)236-0459Email: SHAWKINS@USGS.GOV7. Well Name: USGS Well Number: HM-1-13

8. Unit Name (if appl): _____ Unit Number: _____

9. Proposed Total Measured Depth: 2000

WELL LOCATION INFORMATION

10. QtrQtr: NWNW Sec: 3 Twp: 4S Rng: 83W Meridian: 6Latitude: 39.739306 Longitude: -106.684361

Footage at Surface: 800 feet FNL/FSL 695 feet FEL/FWL
 FNL/FSL 695 feet FEL/FWL

11. Field Name: _____ Field Number: _____

12. Ground Elevation: 7255 13. County: EAGLE

14. GPS Data:

Date of Measurement: 04/03/2013 PDOP Reading: 0.0 Instrument Operator's Name: S. HAWKINS15. If well is ☐ Directional ☐ Horizontal (highly deviated) **submit deviated drilling plan.**

Footage at Top of Prod Zone: FNL/FSL _____ FEL/FWL _____ Bottom Hole: FNL/FSL _____ FEL/FWL _____

Sec: _____ Twp: _____ Rng: _____ Sec: _____ Twp: _____ Rng: _____

16. Is location in a high density area? (Rule 603b)? ☐ Yes ☒ No17. Distance to the nearest building, public road, above ground utility or railroad: 127 ft18. Distance to nearest property line: 830 ft 19. Distance to nearest well permitted/completed in the same formation(BHL): 39 mi

20. LEASE, SPACING AND POOLING INFORMATION

Objective Formation(s)	Formation Code	Spacing Order Number(s)	Unit Acreage Assigned to Well	Unit Configuration (N/2, SE/4, etc.)
BENTON SHALE	BENTN			
NIOBRARA	NBRR			

21. Mineral Ownership: ☐ Fee ☐ State ☒ Federal ☐ Indian Lease #: _____22. Surface Ownership: ☐ Fee ☐ State ☒ Federal ☐ Indian23. Is the Surface Owner also the Mineral Owner? ☒ Yes ☐ No Surface Surety ID#: _____23a. If 23 is Yes: Is the Surface Owner(s) signature on the lease? ☒ Yes ☐ No23b. If 23 is No: ☐ Surface Owners Agreement Attached or ☐ \$25,000 Blanket Surface Bond ☐ \$2,000 Surface Bond ☐ \$5,000 Surface Bond

24. Using standard QtrQtr, Sec, Twp, Rng format enter entire mineral lease description upon which this proposed wellsite is located (attach separate sheet/map if you prefer):

N/A

25. Distance to Nearest Mineral Lease Line: _____

26. Total Acres in Lease: _____

DRILLING PLANS AND PROCEDURES

27. Is H2S anticipated? ☐ Yes ☒ No If Yes, attach contingency plan.

28. Will salt sections be encountered during drilling? ☐ Yes ☒ No

29. Will salt (>15,000 ppm TDS CL) or oil based muds be used during drilling? ☐ Yes ☒ No

30. If questions 28 or 29 are yes, is this location in a sensitive area (Rule 901.e)? ☐ Yes ☒ No

31. Mud disposal: ☐ Offsite ☒ Onsite

If 28, 29, or 30 are "Yes" a pit permit may be required.

Method: ☐ Land Farming ☒ Land Spreading ☐ Disposal Facility

Other: _____

Note: The use of an earthen pit for Recompletion fluids requires a pit permit (Rule 905b). If air/gas drilling, notify local fire officials.

Casing Type	Size of Hole	Size of Casing	Wt/Ft	Csg/Liner Top	Setting Depth	Sacks Cmt	Cmt Btm	Cmt Top
SURF	10	6+5/8	17	0	54	25	54	0
OPEN HOLE	2+1/2			0	2,000			

32. BOP Equipment Type: ☐ Annular Preventer ☐ Double Ram ☐ Rotating Head ☒ None

33. Comments see original APD: continuous core from 40' to TDWell is intended to provide a continuous core of the Niobrara and Benton as part of a USGS research project on potential gas shales of the Rocky Mountain Region.

34. Location ID: _____

35. Is this application in a Comprehensive Drilling Plan ? ☐ Yes ☐ No

36. Is this application part of submitted Oil and Gas Location Assessment ? ☒ Yes ☐ No

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

Signed: _____

Print Name: SARAH HAWKINS

Title: GEOLOGIST

Date: 4/10/2013

Email: SHAWKINS@USGS.GOV

Operator must have a valid water right or permit allowing for industrial use or purchased water from a seller that has a valid water right or permit allowing for industrial use, otherwise an application for a change in type of use is required under Colorado law. Operator must also use the water in the location set forth in the water right decree or well permit, otherwise an application for a change in place of use is required under Colorado law. Section 37-92-103(5), C.R.S. (2011).

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____

Director of COGCC

Date: 6/13/2013

API NUMBER

05 037 06006 00

Permit Number: _____

Expiration Date: 6/12/2015

CONDITIONS OF APPROVAL, IF ANY:

All representations, stipulations and conditions of approval stated in the Form 2A for this location shall constitute representations, stipulations and conditions of approval for this Form 2 Permit-to-Drill and are enforceable to the same extent as all other representations, stipulations and conditions of approval stated in this Permit-to-Drill.

(1) COMPLIANCE WITH THE MOST CURRENT REVISION OF THE NORTHWEST COLORADO NOTIFICATION POLICY IS REQUIRED.

(2) SURFACE CASING WILL BE 54'.

(3) AFTER CORING AND LOGGING THE HOLE, PLUG THE HOLE USING "HIGH-SOLID BENTONITE SLURRY," PER USGS'S DRILLING PLAN. PUMP THIS SLURRY FROM TD TO 185'. CIRCULATE FROM 185' TO SURFACE WITH WATER AND/OR CEMENT SCAVENGER, THEN SET A CEMENT PLUG FROM 185' TO SURFACE.

Applicable Policies and Notices to Operators

NW Colorado Notification Policy.

Notice Concerning Operating Requirements for Wildlife Protection.

Attachment Check List

Att Doc Num	Name
2055784	DRILLING PLAN
2055785	DRILLING PLAN
2486399	FORM 2 SUBMITTED

Total Attach: 3 Files

General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>
Permit	No LGD or public comments. Final Review--passed.	3/3/2013 6:46:45 AM
Engineer	The quantity of cement sacks for the surface casing interval may vary depending on the O.D. of the pipe. 5/30: opr rep provided casing info: 6.625" OD steel.	5/21/2013 2:39:24 PM
Permit	Added related 2A. Added operator comments on submitted APD. Corrected #17 to 127'. Added "land spreading".	5/13/2013 9:24:04 AM
Permit	This form has passed completeness.	5/1/2013 12:22:02 PM

Total: 4 comment(s)

BMP

<u>Type</u>	<u>Comment</u>