



DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES
 Minerals & Mining Program - Oil & Gas Section
 2050 West Main, Suite #1, Rapid City, SD 57702-2493
 Telephone: 605-394-2229, FAX: 605-394-5317

FORM 2

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DEC 19 2012

State of South Dakota
 Department of Environment
 and Natural Resources

APPLICATION FOR PERMIT TO DRILL

DEPT OF ENVIRONMENT & NATURAL
 RESOURCES - RAPID CITY

Type of Work: Drill New Well Reenter Well Drill Directional Well Other

Type of Well: Oil Well Gas Well Injection Other

Name and Address of Operator: LUFF EXPLORATION COMPANY, 1580 LINCOLN STREET, SUITE 850, DENVER, CO 80203
 Telephone: (303) 861-2468

Name and Address of Surface Owner: Clair C. Janvrin, Jr., 12548 Cox Road, Ludlow, SD 57755

Name and Address of Drilling Contractor and Rig Number: Cyclone Rig # 11, 5800 Mohan Rd, Gillette, WY 82718

Surface Location of Well: Qtr-Qtr, Sec, Twp, Rge, County, Feet from Nearest Lines of section, and latitude and longitude (if available):
 NWNW Sec 5-T22N-R5E, Harding Co., 275' FNL x 260' FWL, Lat: 45° 54' 21.612" N, Long: 103° 32' 26.551" W

If Directional, top of pay and bottom hole location from nearest lines of section:
 South Lateral: Top of pay est @ 9254' MD = 8981' TVD (742' FNL & 161' FWL Sec 5-T22N-R5E) BHL = 200' FNL & 200' FWL Sec 8-T22N-R5E

Acres in Spacing (Drilling) Unit: Unit well in Travers Ranch Red River Unit
 Description of Spacing Unit: Travers Ranch Red River Unit

Well Name and Number	Elevation	Field and Pool, or Wildcat	Proposed Depth and Formation		
TRRRU D-5H	3016.5' Gr 3031' KB	TRRRU	Lat: 14056' MD, 8981' TVD Red River B		
Size of Hole	Size of Casing	Weight per Foot	Depth	Cementing Program (amount, type, additives)	Depth
1) 13-1/2	9-5/8"	36#	2000'	565 sks Lite Tailed w/ 200 sks Premium	Surface
2) 8-3/4	7"	23, 26, 29#	9254'	145 sks Lite Tailed w/ 500 sks Premium	4600'
3) 6-1/8	None		14056'		

Describe Proposed Operations (Clearly State all Pertinent Details, and Give Pertinent Dates, Including Estimated Date of Starting any Proposed Work). Use Additional Page(s) if appropriate.

Drill a medium radius horizontal well that has one lateral in the Red River "B" formation. Drill 13-1/2" surface hole to 2000' with fresh water. Run 9-5/8" casing and cement to surface. Drill 8-3/4" vertical hole to KOP at approximately 8504'. Drill build section with an azimuth of approximately 192 degrees and land in the Red River "B" zone at 9254' MD = 8981' TVD with a BHL approximately 467' south and 99' west of surface location. Vertical and build sections to be drilled with invert oil mud. Run 7" casing and cement to 4600'. Drill one 6-1/8" horizontal lateral in the Red River "B" zone at approximately 14056' MD = 8981' TVD at BHL approximately 200' FNL and 200' FWL Sec 8-T22N-R5E. Fresh water/polymer will be used for the horizontal section. All drilling fluids and cuttings will be contained in a pit lined with a 12 mil plastic liner. All liquids will be disposed of in an approved method, the liner and cuttings will be buried in place. The estimated start date for location construction is 12/26/12. Estimated start date for drilling is 3/1/13.

I hereby certify that the foregoing as to any work or operation performed is a true and correct report of such work or operation.

Signature: Name (Print): Richard D. George Title: Manager of Engineering Date: 12/18/2012

FOR OFFICE USE ONLY

Approved by: Title: Administrator Minerals & Mining Prog.
 Permit No. 2023 API No. 40 063 20740 Date Issued: 1/2/2013
 Conditions, if any, on attached page.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

PERMIT CONDITIONS

Luff: D-5H TRRRU
22N-5E-5 NWNW, Harding County

Permit: 2023
API: 40 063 20740

Approval has been granted to drill this location as detailed on the attached Application for Permit to Drill (Form #2) with the following additional conditions:

1. This permit is conditioned on compliance with all applicable requirements of South Dakota Codified Laws 45-9 and Administrative Rules of South Dakota 74-12.
2. A 12-mil woven, reinforced high-density polyethylene liner must be used on all pits.
3. Surface runoff must be diverted around the drill site.
4. The surface hole must be drilled with fresh water.
5. Cement must be circulated to the ground surface on the surface casing.
6. If horizontally drilled:
 - A. The coordinates of the production casing shoe and the well terminus must be filed with the department.
 - B. The azimuth of the horizontal segment of the well must be filed with the department along with the results of periodic down hole surveys.
7. If production casing (long string) is set:
 - A. The casing and cementing program submitted with the application shall be followed.
 - B. A cement bond log must be run and filed with the department within 60 days after completion of the well as required by Administrative Rules of South Dakota 74:12:02:12.
8. If abandoned, a plugging plan must be submitted to the department for review and approval. The plugging plan should address all requirements found in Administrative Rules of South Dakota 74:12:03:
 - A. If production casing is left in the wellbore, a mechanical integrity test must be conducted to verify the integrity of the casing as required by rule 74:12:03:02(4)(b)(ii).
 - B. The casing string must be cut off at least three feet below the final ground surface contour. A plate with the name of the operator, well name and number, and legal location by quarter-quarter section, township and range must be welded to the casing stub. The location of the abandoned well must be surveyed with high resolution global positioning system equipment or other appropriate survey methods sufficient to accurately locate the well. Survey coordinates must be included in the final abandonment report.
9. Surface reclamation of the site must be completed within one year of plugging and abandoning the well.
10. A washed set of sample cuttings (or cores, if cut) must be shipped, free of charge, to:

Derric Iles
Geological Survey Program
Akeley-Lawrence Science Center
University of South Dakota
414 E. Clark Street
Vermillion, SD 57069-2390

11. Please notify this office prior to plugging or MIT so a witness can be on location. If plugging or MIT will occur after regular business hours, call Jeff Klenner at (605) 929-1414.