

STATE OF SOUTH DAKOTA  
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
BOARD OF MINERALS AND ENVIRONMENT

<p>IN THE MATTER OF THE PETITION OF LUFF EXPLORATION COMPANY, DENVER, CO, TO AMEND BOARD ORDER NOS. 1-1977 AND 3-1977A, AND ANY OTHER APPLICABLE ORDERS FOR THE EAST HARDING SPRINGS FIELD TO ESTABLISH A 320-ACRE SPACING UNIT CONSISTING OF THE E/2 OF SECTION 30, TOWNSHIP 23 NORTH, RANGE 6 EAST, HARDING COUNTY, SOUTH DAKOTA, AND AUTHORIZE THE DRILLING OF ONE VERTICAL WELL TO BE COMPLETED IN THE RED RIVER "C" AND "D" ZONES AT ANY LOCATION NOT CLOSER THAN 500 FEET TO THE BOUNDARY OF SAID SPACING UNIT; TO AUTHORIZE THE ISSUANCE OF A PERMIT FOR SUCH VERTICAL WELL; AND FOR OTHER RELIEF AS THE BOARD DEEMS APPROPRIATE.</p>	<p>OIL AND GAS CASE NO. 4-2017</p>  <p>ORDER</p>
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**SECRETARY'S ORDER UNDER SDCL 45-9-74**

A Petition ("Petition") of Luff Exploration Company ("Luff") was submitted to the South Dakota Board of Minerals and Environment ("Board") on August 29, 2017. The Board prepared and published a Notice of Opportunity for Hearing ("Notice") and Luff caused a copy of the Petition and the Notice to be served by mail or personally on each party affected by the petition. No petitions to intervene were filed in accordance with the Notice. Therefore, pursuant to South Dakota Codified Laws (SDCL) 45-9-74, SDCL 45-9-20 through 29, and Administrative Rules of South Dakota (ARSD) 74:12:02:06, and based upon Luff's Petition and the supporting documents filed by Luff, the Secretary makes and enters the following order:

Luff represents the owners of interests in the oil and gas leasehold estate underlying all or portions of the East Half of Section 30, Township 23 North, Range 6 East of the Black Hills Meridian, Harding County, South Dakota.

Pursuant to Order Nos. 1-1977 and 3-1977a, Section 30 was included in the East Harding Springs Field and was spaced for vertical drilling for all Red River zones on the basis of one well per 320 acres. Pursuant to Order No. 2-2002, the Southeast Quarter of said section was additionally spaced as part of a unit for horizontal drilling for the Red River "B" zone on the basis of 320 acres. Pursuant to Order No. 8-2007, the Northeast Quarter of Section 30 was additionally spaced as part of a unit for horizontal drilling for the Red River "B" zone on the basis of 480 acres. In Order Nos. 2-2003 and 6-2010, the lands in Section 30 were incorporated into the East Harding Springs Red River Unit.

Luff desires to drill a vertical well in the southern half of the proposed spacing unit in the Red River "C" and "D" zones, which are not part of the Unitized Formation for the East Harding Springs Red River Unit. Luff has previously drilled the Luff 1-30 Dworshak well on the lands included in the proposed spacing unit, and which produced from the Red River "C" and "D" zones and other Red River zones before it was plugged in 1999. Evidence submitted by Luff indicates that there are additional recoverable hydrocarbons in the Red River "C" and "D" zones underlying the proposed spacing unit.

The proposed spacing unit accommodates the wellbore planned by Luff and is also consistent with other spacing orders in the area. Establishing the proposed spacing unit with the proposed boundary setbacks of 500 feet will enable Luff to drill the well at the optimal location and thereby maximize the recovery of hydrocarbons.

Such a spacing unit is not smaller than the maximum area that can be efficiently and economically drained by the proposed well and the size, shape and location of the spacing unit will result in the efficient and economic development of the pool as a whole.

**IT IS THEREFORE ORDERED**

A. A spacing unit consisting of the East Half of Section 30, Township 23 North, Range 6 East is hereby established in the East Harding Springs Field.

B. One vertical well is authorized to be drilled on this spacing unit in the Red River "C" and "D" zones, with the wellbore located not closer than 500 feet to the spacing unit boundary.

C. This order amends prior orders concerning the above-described land, including without limitation Order Nos. 1-1977 and 3-1977a. Because only the Red River "C" and "D" zones are included in this order, this order does not affect the East Harding Springs Red River Unit or any other Red River "B" zone spacing in the area.

D. That all portions of previous orders of the Board, if any, which are not amended by this Order shall remain in full force and effect until further order of the Board or Secretary.

E. That upon filing all required further information and forms with the Department of Environment and Natural Resources, a drilling permit may be issued for the vertical well on the spacing unit established above.

Dated and signed this 6th day of October 2017.



Steven M. Pirner  
Secretary  
Department of Environment and Natural Resources