

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

IN THE MATTER OF THE PETITION OF LUFF EXPLORATION COMPANY TO AMEND THE APPLICABLE ORDERS FOR THE BUFFALO FIELD AND THE SOUTH MEDICINE POLE HILLS FIELD TO INCLUDE THE SE/4 OF SECTION 31, TOWNSHIP 23 NORTH, RANGE 4 EAST, THE NW/4 OF SECTION 3 AND THE NE/4 OF SECTION 4, BOTH IN TOWNSHIP 22 NORTH, RANGE 4 EAST, IN THE BUFFALO FIELD AND ESTABLISH TWO OVERLAPPING 960-ACRE SPACING UNITS FOR THE BUFFALO FIELD CONSISTING OF (1) THE E/2 OF SECTION 33 AND THE W/2 OF SECTION 34, TOWNSHIP 23 NORTH, RANGE 4 EAST, AND THE NW/4 OF SECTION 3 AND THE NE/4 OF SECTION 4, TOWNSHIP 22 NORTH, RANGE 4 EAST; AND (2) THE E/2 OF SECTION 31 AND ALL OF SECTION 32, TOWNSHIP 23 NORTH, RANGE 4 EAST, ALL IN HARDING COUNTY, SOUTH DAKOTA, AND AUTHORIZE THE DRILLING OF A HORIZONTAL WELL WITH ONE OR MORE LATERALS IN THE RED RIVER "B" ZONE AT ANY LOCATION NOT CLOSER THAN 500 FEET TO THE BOUNDARY OF EACH SAID SPACING UNIT; TO AUTHORIZE THE ISSUANCE OF PERMITS FOR SUCH HORIZONTAL WELLS; AND FOR OTHER RELIEF AS THE BOARD DEEMS APPROPRIATE.

OIL AND GAS
CASE NO. 16-2013

ORDER

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 April 22, 2013. 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 petition to intervene was filed in accordance with the Notice. Therefore, pursuant to SDCL 45-9-74, SDCL 45-9-20 through 29, and 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 in all or portions of the E/2 of Section 31, all of Section 32, the E/2 of Section 33 and the W/2 of Section 34, Township 23 North, Range 4 East, and the NW/4 of Section 3 and the NE/4 of Section 4, Township 22 North, Range 4 East, all in Harding County, South Dakota.

Pursuant to Order No. 20-97, all of said Section 3 is included in the Buffalo Field as a 640-acre spacing unit. Pursuant to Order 2-73b, all of said Sections 32, 33 and 34 are in the South Medicine Pole Hills Field and Sections 32 and 34 constitute 640-acre spacing units pursuant to Order No. 14-97. Pursuant to Order No. 2-2011, the NE/4 of said Section 31 and the NW/4 of Section 32 are included within the South Medicine Pole Hills Field as part of a 480-acre spacing unit. The SE/4 of said Section 31 and the NE/4 of said Section 4 are not included within any fields established by the Board.

The caption for the petition requests that two overlapping 960-acre spacing units be established for the Buffalo Field. However, the body of the petition states, and the supporting documents filed by Luff establish, that the Red River "B" reservoir underlying all of the lands described above is part of the same common source of supply and that common source of supply extends into the South Medicine Pole Hills Field.

Luff has drilled the Buckley D-32H well in the Red River "B" pool on a 480-acre spacing unit consisting of the SW/4 of Section 29, the NW/4 of Section 32 and the NE/4 of Section 31, Township 23 North, Range 4 East. Luff has also drilled the McKittrick I-28H well in the Red River "B" pool on a 960-acre spacing unit described as the SW/4 of Section 27, the SE/4 of

Section 28, the E/2 of Section 33 and the W/2 of Section 34, Township 23 North, Range 4 East. Luff desires to drill additional horizontal wells in the Red River "B" pool paralleling the Buckley D-32H well and the McKittrick I-28H well to adequately and efficiently drain the reservoir and also to optimize the possibility of secondary recovery.

To accommodate these horizontal wells, Luff requests that the lands described above be included within the Buffalo Field and that the E/2 of Section 33, the W/2 of Section 34, Township 23 North, Range 4 East and the NW/4 of Section 3, and the NE/4 of Section 4, Township 22 North, Range 4 East be designated as one 960-acre spacing unit and the E/2 of Section 31 and all of Section 32, Township 23 North, Range 4 East, be designated as a second 960-acre spacing unit with one horizontal well with one or more laterals in the Red River "B" zone allowed on each 960-acre spacing unit at any location not closer than 500 feet to the boundary of the spacing unit. However, the request to include the lands in the Buffalo Field appears to be an administrative mistake in that the two existing spacing units which the proposed 960-acre spacing units overlap would be partially located in both the Buffalo Field and the South Medicine Pole Hills Field. Therefore, it is more appropriate to include the lands within the South Medicine Pole Hills Field and establish the requested overlapping spacing units in the South Medicine Pole Hills Field.

Such spacing units are not smaller than the maximum area that can be efficiently and economically drained by the proposed wells 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. The E/2 of Section 33 and the W/ 2 of Section 34, Township 23 North, Range 4 East and the NW/4 of Section 3, and the NE/4 of Section 4, Township 22 North, Range 4 East,

are included within the South Medicine Pole Hills Field and designated as one overlapping 960-acre spacing unit and the E/2 of Section 31 and all of Section 32, Township 23 North, Range 4 East, are also included within the South Medicine Pole Hills Field and designated as a second overlapping 960-acre spacing unit.

B. A horizontal well with one or more laterals is allowed to be drilled in the Red River "B" pool at any location on each of the 960-acre spacing units created pursuant to paragraph A above, with said wells to be located not closer than 500 feet to the spacing unit boundary.

C. This order amends prior orders of the Board concerning the above described land, including without limitation Order Nos. 2-73b, 14-97, 20-97 and 2-2011. The 960-acre spacing units created by this order will overlap, and not replace or terminate, the existing 480-acre and 960-acre spacing units previously established by Order Nos. 2-2011 and 7-2012.

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 office of the Department of Environment and Natural Resources, drilling permits may be issued for the horizontal wells on the spacing units established above.

Dated and signed this 1st day of July 2013.



Steven M. Pirner
Secretary