

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 12201
ORDER NO. 14455

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF CONTINENTAL RESOURCES, INC. FOR AN ORDER EXTENDING THE FIELD BOUNDARIES AND AMENDING THE FIELD RULES FOR THE SADLER AND/OR DOLPHIN-BAKKEN POOLS TO CREATE AND ESTABLISH A 1280-ACRE SPACING UNIT COMPRISED OF SECTIONS 17 AND 20, T.161N., R.95W., DIVIDE COUNTY, ND, AUTHORIZING THE DRILLING OF ONE HORIZONTAL WELL ON SAID SPACING UNIT, ELIMINATING THE MINIMUM SETBACKS FROM THE "HEEL AND TOE" OF THE WELL TO THE SPACING UNIT BOUNDARIES, AND ELIMINATING ANY TOOL ERROR SETBACK REQUIREMENTS, AND SUCH OTHER RELIEF AS IS APPROPRIATE.

ORDER OF THE COMMISSION

THE COMMISSION FINDS:

(1) This cause came on for hearing at 9:00 a.m. on the 25th day of February, 2010. At that time due to the length of the docket, the hearing examiner left the record open until February 26, 2010, at which time testimony and evidence was heard.

(2) The witnesses for Continental Resources, Inc. (Continental) provided telephonic testimony in this matter pursuant to North Dakota Administrative Code (NDAC) Section 43-02-03-88.2. Telephonic Communication Affidavits were received on March 4, 2010; therefore, such testimony may be considered evidence.

(3) Continental made application to the Commission for an order extending the field boundaries and amending the field rules for the Sadler and/or Dolphin-Bakken Pools to create and establish a 1280-acre spacing unit comprised of Sections 17 and 20, Township 161 North, Range 95 West, Divide County, North Dakota (Sections 17 and 20), authorizing the drilling of one horizontal well on said spacing unit, eliminating the minimum setbacks from the "heel" and

"toe" of the well to the spacing unit boundaries, eliminating any tool error setback requirements, and such other relief as is appropriate.

(4) Continental is the owner of an oil and gas leasehold estate in Sections 17 and 20.

(5) Order No. 14041 entered in Case No. 11860, the most recent spacing order for the Sadler-Bakken Pool, established proper spacing for the development of Zone I at one well per 160 acres, Zone II at one horizontal well per 640 acres, Zone III at one horizontal well per 1280 acres, and Zone IV at up to two horizontal wells per 1280 acres.

(6) Section 17 and the N/2 of Section 20 are within the Sadler Field and within Zone I in the Sadler-Bakken Pool. Section 17 is also within Zone II in the Sadler-Bakken Pool.

(7) Order No. 14039 entered in Case No. 11858, the most recent spacing order for the Dolphin-Bakken Pool, established proper spacing for the development of Zone I at one well per 160 acres, Zone II at one horizontal well per 1280 acres, Zone III at one horizontal well per 640 acres, Zone IV at up to three horizontal wells per 1280 acres, and Zone V at up to two horizontal wells per 1280 acres.

(8) The S/2 of Section 20 is within the Dolphin Field and within Zone I in the Dolphin-Bakken Pool. Currently Section 20 is a 640-acre spacing unit in Zone III in the Dolphin-Bakken Pool and comprises Zone III in its entirety. There has not been a well permitted in the Dolphin-Bakken Pool in Section 20.

(9) The Continental #1-17R Robert Heuer well, located 600 feet from the south line and 822 feet from the east line of Section 17, is completed horizontally in the middle member of the Bakken Formation in Zone II in the Sadler-Bakken Pool on a spacing unit described as Section 17. Continental requested the Robert Heuer #1-17R well be allowed to continue to produce on its existing spacing unit.

(10) The Condor Petroleum, Inc. #1 Heuer 41-20 well, located 660 feet from the north line and 660 feet from the east line of Section 20, produced 109,320 barrels of oil from the Sadler-Madison Pool on a spacing unit described as the NE/4 of Section 20.

(11) The Chesapeake Operating, Inc. #1-20 Prince well, located 888 feet from the south line and 648 feet from the west line of Section 20, produced 915 barrels of oil from the Dolphin-Madison Pool on a spacing unit described as the SW/4 of Section 20.

(12) It is not customary practice of the Commission to move wells that have had production from one field to another.

(13) There are no other wells currently permitted to, producing from, or that have produced from any pool in Sections 17 or 20. Since Section 17 is a current spacing unit in the Sadler-Bakken Pool, the NE/4 of Section 20 produced 109,320 barrels of oil from the Sadler-Madison Pool, and the SW/4 of Section 20 produced 915 barrels of oil from the Dolphin-Madison Pool, the Sadler and Dolphin Field boundaries should not be changed but a 1280-acre spacing unit consisting of Sections 17 and 20 should be established in the Dolphin-Bakken Pool, overlapping into the Sadler Field.

(14) Continental plans to develop the upper Three Forks Formation in the Bakken Pool underlying Sections 17 and 20 by drilling a single-lateral horizontal well from a surface location approximately 200 feet from the south line and 1980 feet from the west line of Section 20. The casing will be set horizontally in the Bakken Pool north of the surface location at a legal location and the lateral will then be drilled to bottom a hole location approximately 200 feet from the north line and 1980 feet from the west line of Section 17. Utilization of horizontal drilling technology as proposed would result in the well being completed at a location or locations not in compliance with current applicable spacing orders for the Dolphin or Sadler-Bakken Pools. The surface and bottom hole locations herein depicted may be preliminary and could be changed for various reasons which is permissible as long as the horizontal well design still justifies the proposed spacing unit.

(15) Evidence and testimony presented to the Commission indicates that the proposed horizontal well will produce oil that might otherwise not be produced.

(16) Allowing the Robert Heuer #1-17R well to continue to produce on its existing spacing unit, described as Section 17, will provide maximum ultimate recovery from the pool in a manner that will protect correlative rights.

(17) Continental requested a 200-foot setback requirement from the north and south boundaries of the spacing unit. Allowing a 200-foot setback requirement on the north and south boundaries of the standup spacing unit will allow Continental to more efficiently develop the reservoir.

(18) Continental requested any tool error in the directional survey equipment when calculating the bottom hole location of any horizontal lateral drilled in the proposed spacing unit be waived.

(19) Waiving potential tool error in the directional survey equipment when calculating the bottom hole location of any horizontal lateral drilled in the proposed spacing unit will allow Continental to more efficiently develop said spacing unit.

(20) Flexibility with respect to spacing unit size and the location of wells in the Dolphin-Bakken Pool is essential to efficiently produce as much recoverable oil and gas as economically possible.

(21) Pursuant to Section 38-08-07 of the North Dakota Century Code, spacing units must be of uniform size and shape for the entire pool, except when found necessary to prevent waste, avoid the drilling of unnecessary wells, or to protect correlative rights, the Commission is authorized to divide any pool into zones and establish spacing units for each zone, which units may differ in size and shape from those established in any other zone.

(22) Zones of different spacing within the Dolphin-Bakken Pool will allow the flexibility needed for utilization of horizontal drilling.

(23) Granting flexibility in spacing unit size and in locating and drilling horizontal wells will result in economic and efficient development of the oil and gas resources in a manner that prevents waste and protects correlative rights.

(24) If Continental's activities are successful, greater ultimate recovery of oil and gas from the pool will be achieved which will prevent waste and the drilling of unnecessary wells in a manner which will not have a detrimental effect on correlative rights.

(25) There were no objections to this application.

(26) Approval of this application will prevent waste, avoid the drilling of unnecessary wells, and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) Sections 17 and 20, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby established as a 1280-acre spacing unit for the exclusive purpose of drilling one horizontal well within said spacing unit within the Dolphin-Bakken Pool and Zone II is hereby extended to include said spacing unit. Existing and future vertical and directional wells drilled within the spacing unit herein established shall conform to the applicable spacing requirements providing for the orderly development of Zone I in the Dolphin or Sadler-Bakken Pool. Note that Section 17 and the N/2 of Section 20 will remain in the Sadler Field. Zone III in the Dolphin-Bakken Pool is hereby eliminated and Zones IV and V are redefined as Zones III and IV.

(2) The Director is hereby authorized to exercise continuing jurisdiction in this matter to determine whether a horizontal well proposed or drilled upon the 1280-acre spacing unit herein established has justified the creation of such unit, to require amendments or modifications to the permit to drill for such horizontal well, and to deny a permit to drill in the event a well is proposed to be drilled in a manner inconsistent with the evidence that justified such spacing unit.

(3) The Dolphin Field is hereby defined as the following described tracts of land in Divide County, North Dakota:

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 18, 19, 29, 30, 31 AND 32, AND THE S/2 OF SECTION 20,

TOWNSHIP 160 NORTH, RANGE 96 WEST, 5TH PM
ALL OF SECTIONS 1, 2, 3, 4, 5, 8, 9, 10 AND 11, AND THE W/2 AND SE/4 OF SECTION 12.

(4) The Dolphin-Bakken Pool is hereby redefined as the following described tracts of land in Divide County, North Dakota:

ZONE I (160)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 18, 19, 29, 30, 31 AND 32, AND THE S/2 OF SECTION 20,

TOWNSHIP 160 NORTH, RANGE 96 WEST, 5TH PM

ALL OF SECTIONS 1, 2, 3, 4, 5, 8, 9, 10 AND 11, AND THE W/2 AND SE/4 OF SECTION 12.

ZONE II (1280H)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 17*, 20*, 29 AND 32,

*Section 17 and the N/2 of Section 20 are within the Sadler Field.

TOWNSHIP 160 NORTH, RANGE 96 WEST, 5TH PM
ALL OF SECTIONS 2, 3, 4, 5, 8, 9, 10 AND 11.

ZONE III (3/1280H)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 18, 19, 30 AND 31.

ZONE IV (2/1280H)

TOWNSHIP 160 NORTH, RANGE 96 WEST, 5TH PM
ALL OF SECTIONS 1 AND 12*.

*The NE/4 of Section 12 is within the Hayland Field.

(5) The Dolphin-Bakken Pool is hereby defined as that accumulation of oil and gas found in the interval from 50 feet above the top of the Bakken Formation to 50 feet below the top of the Three Forks Formation within the limits of the field as set forth above.

(6) The proper spacing for the development of Zone I in the Dolphin-Bakken Pool is hereby set at one well per 160 acres.

(7) All wells hereafter drilled in Zone I in the Dolphin-Bakken Pool shall be located not less than 500 feet from a spacing unit boundary.

(8) Spacing units hereafter created in Zone I in the Dolphin-Bakken Pool shall consist of a governmental quarter section or governmental lots corresponding thereto.

(9) Zone I in the Dolphin-Bakken Pool shall not be extended except by further order of the Commission after due notice and hearing.

(10) Provisions established herein for Zone II in the Dolphin-Bakken Pool are for the exclusive purpose of drilling horizontal wells. Existing and future vertical and directional wells drilled within the area defined as Zone II in paragraph (4) above shall conform to the applicable spacing requirements for the orderly development Zone I in the Dolphin or Sadler-Bakken Pool.

(11) The proper spacing for the development of Zone II in the Dolphin-Bakken Pool is hereby set at one horizontal well per 1280 acres.

(12) All portions of the well bore not isolated by cement of any horizontal well hereafter drilled in Zone II in the Dolphin-Bakken Pool shall be no closer than 500 feet to the boundary of the spacing unit with the exception of the exceptions outlined in paragraph (13) below. Measurement inaccuracies in the directional survey equipment need not be considered except when deemed necessary by the Director. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well drilled in the spacing unit consisting of Sections 17 and 20, Township 161 North, Range 95 West, Divide County, North Dakota, need not be considered.

(13) All portions of the well bore not isolated by cement of any horizontal well hereafter drilled in Zone II in the Dolphin-Bakken Pool in the spacing unit described as Sections 17 and 20, Township 161 North, Range 95 West, Divide County, North Dakota, shall be no closer than 500 feet to the east or west boundary and 200 feet to the north or south boundary of the spacing unit.

(14) Sections 17* and 20*; Sections 29 and 32, Township 161 North, Range 95 West; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; and Sections 5 and 8, Township 160 North, Range 96 West, Divide County, North Dakota, are hereby designated 1280-acre spacing units in Zone II in the Dolphin-Bakken Pool.

*Note Section 17 and the N/2 of Section 20, Township 161 North, Range 95 West, Divide County, North Dakota, are within the Sadler Field.

(15) Spacing units hereafter created in Zone II in the Dolphin-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

(16) Zone II in the Dolphin-Bakken Pool shall not be extended except by further order of the Commission after due notice and hearing.

(17) Provisions established herein for Zone III in the Dolphin-Bakken Pool are for the exclusive purpose of drilling horizontal wells. Existing and future vertical and directional wells drilled within the area defined as Zone III in paragraph (4) above shall conform to the applicable spacing requirements for the orderly development of Zone I in the Dolphin-Bakken Pool.

(18) The proper spacing for the development of Zone III in the Dolphin-Bakken Pool is hereby set at up to three horizontal wells per 1280 acres.

(19) All portions of the well bore not isolated by cement of any horizontal well hereafter drilled in Zone III in the Dolphin-Bakken Pool in the spacing unit described as Sections 18 and 19, Township 161 North, Range 95 West, Divide County, North Dakota, shall be no closer than 500 feet to the north, west, and east boundaries and 50 feet to the south boundary of the spacing unit. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well need not be considered.

All portions of the well bore not isolated by cement of any horizontal well hereafter drilled in Zone III in the Dolphin-Bakken Pool in the spacing unit described as Sections 30 and 31, Township 161 North, Range 95 West, Divide County, North Dakota, shall be no closer than 500

feet to the south, west, and east boundaries and 50 feet to the north boundary of the spacing unit. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well need not be considered.

(20) Applications for permits to drill the four horizontal wells located on the east side of the spacing units consisting of Sections 18 and 19; and Sections 30 and 31, Township 161 North, Range 95 West, Divide County, North Dakota, to be drilled from a common drilling pad shall be submitted simultaneously.

(21) Sections 18 and 19; and Sections 30 and 31, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby designated 1280-acre spacing units in Zone III in the Dolphin-Bakken Pool.

(22) Spacing units hereafter created in Zone III in the Dolphin-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

(23) Zone III in the Dolphin-Bakken Pool shall not be extended except by further order of the Commission after due notice and hearing.

(24) Provisions established herein for Zone IV in the Dolphin-Bakken Pool are for the exclusive purpose of drilling horizontal wells. Existing and future vertical and directional wells drilled within the area defined as Zone IV in paragraph (4) above shall conform to the applicable spacing requirements for the orderly development of the Hayland-Bakken Pool or Zone I in the Dolphin-Bakken Pool, whichever is applicable.

(25) The proper spacing for the development of Zone IV in the Dolphin-Bakken Pool is hereby set at up to two horizontal wells per 1280 acres.

(26) All portions of the well bore not isolated by cement of any horizontal well hereafter drilled in Zone IV in the Dolphin-Bakken Pool shall be no closer than 500 feet to the boundary of the spacing unit. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well need not be considered.

(27) Sections 1 and 12*, Township 160 North, Range 96 West, Divide County, North Dakota, are hereby designated a 1280-acre spacing unit in Zone IV in the Dolphin-Bakken Pool.

*Note the NE/4 of Section 12, Township 160 North, Range 96 West, Divide County, North Dakota is within the Hayland Field.

(28) Spacing units hereafter created in Zone IV in the Dolphin-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

(29) Zone IV in the Dolphin-Bakken Pool shall not be extended except by further order of the Commission after due notice and hearing.

(30) The operator of any horizontally drilled well in the Dolphin-Bakken Pool shall cause to be made a directional survey of the well bore. The directional survey contractor shall file a certified survey with the Commission within 30 days after completion of the well in accordance

with NDAC Section 43-02-03-25. The survey shall be of sufficient quality to enable the Commission to determine the entire completion location of the well and its terminus.

(31) The Director is hereby authorized to exercise continuing jurisdiction to determine whether any well proposed or drilled upon any spacing unit herein established has justified the creation of such unit, to require amendments or modifications to the permit to drill for such well, and to deny a permit to drill in the event a well is proposed to be drilled in a manner inconsistent with the evidence that justified the spacing requirements in the Dolphin-Bakken Pool.

(32) The Commission shall have continuing jurisdiction in this matter and specifically reserves the authority, upon its own motion or the motion of any interested party, to: (1) review the spacing requirements for the Dolphin-Bakken Pool; (2) determine whether the separate zones of spacing established herein are warranted; and, (3) make such further amendments or modifications to the spacing requirements for the Dolphin-Bakken Pool as the Commission deems appropriate.

(33) No well shall be drilled or produced in the Dolphin-Bakken Pool, as defined herein, except in conformity with the regulations above without special order of the Commission after due notice and hearing.

(34) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Dolphin-Bakken Pool:

- (a) The surface casing shall consist of new or reconditioned pipe that has been previously tested to 1000 pounds per square inch. The casing shall be set and cemented at a point not less than 50 feet below the base of the Fox Hills Formation. Sufficient cement shall be used to fill the annular space outside the pipe to the surface of the ground, or the bottom of the cellar, and sufficient scratchers and centralizers shall be used to assure a good cement job. Cement shall be allowed to stand a minimum of 12 hours before drilling the plug or initiating tests. The quality of cement shall conform to the standards provided under NDAC Section 43-02-03-21;
- (b) The producing or oil string shall consist of new or reconditioned pipe that has been previously tested to 2000 pounds per square inch. Casing shall be set and cemented at a point not higher than the top of the producing formation, or at a point approved by the Director. Sufficient cement shall be used and applied in such a manner as to protect and isolate all formations containing oil and/or gas, protect the pipe through salt sections encountered, and isolate the Dakota-Lakota Series. The cement shall be allowed to stand a minimum of 15 hours before drilling the plug or initiating tests. The quality of cement shall conform to the standards provided under NDAC Section 43-02-03-21. After cementing, the casing shall be tested by application of pump pressure of at least 1500 pounds per square inch. If, at the end of 30 minutes this pressure has dropped 150 pounds per square inch or more, the casing shall be repaired. Thereafter, the casing shall again be tested in the same manner. Further work shall not proceed until a satisfactory test has been obtained;

- (c) All well-head fittings and connections shall have a working pressure in excess of that to which they are expected to be subjected; and,
- (d) All wells shall be equipped with tubing; a tubing packer must also be utilized in flowing wells unless a waiver is obtained from the Director after demonstrating the casing will not be subjected to excessive pressure or corrosion; all tubing shall be of sufficient internal diameter to allow the passage of a bottom hole pressure gauge for the purpose of obtaining bottom hole pressure measurements.

(35) The gas-oil ratio of all wells not connected to a gas gathering system shall be measured annually during the month of May. The reservoir pressure shall be measured in any well completed in the Dolphin-Bakken Pool if deemed necessary by the Director. Drill stem test pressures are acceptable for determining reservoir pressure. Pressure measurements shall be made at or adjusted to a subsea datum of 6300 feet. All gas-oil ratio and reservoir pressure determinations shall be made by methods approved by the Director and reported to the Director within 15 days following the end of the month in which they are determined. The Director is authorized to waive these requirements if the necessity therefore can be demonstrated to his satisfaction. All additional gas-oil ratio and reservoir pressure determinations conducted on any well, but not specially required herein, shall be reported to the Director within 15 days following the end of the month in which they are determined.

(36) No salt water, drilling mud, crude oil, or waste oil shall be stored in pits in this field, except in an emergency, and approved by the Director.

(37) All wells in the Dolphin-Bakken Bay Pool shall be allowed to produce at a maximum efficient rate for a period of 30 days commencing on the first day oil is produced through wellhead equipment into tanks from the ultimate producing interval after casing has been run; thereafter, oil production from such wells shall not exceed an average of 100 barrels of oil per day; if and when such wells are connected to a gas gathering and processing facility the foregoing restrictions shall be removed, and the wells shall be allowed to produce at a maximum efficient rate. The Director is authorized to issue an administrative order allowing unrestricted production at a maximum efficient rate for a period not to exceed 90 days, commencing on the first day oil is produced through well-head equipment into tanks from the ultimate producing interval after casing has been run, if the necessity therefor can be demonstrated to his satisfaction.

(38) If the flaring of gas produced with crude oil from the Dolphin-Bakken Pool causes, or threatens to cause, degradation of ambient air quality, production from the pool shall be further restricted.

(39) This order shall cover all of the Dolphin-Bakken Pool, common source of supply of crude oil and/or natural gas as herein defined, and shall continue in full force and effect until further order of the Commission or until the last well in the pool has been plugged and abandoned.

Dated this 15th day of April, 2010.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

By the Director, on behalf of the Commission

/s/ Lynn D. Helms, Director