BEFORE THE INDUSTRIAL COMMISSION

OF THE STATE OF NORTH DAKOTA

CASE NO. 18452
(CONTINUED)
ORDER NO. 20738

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE APPLICATION OF CONTINENTAL RESOURCES, INC. FOR AN ORDER AMENDING THE FIELD RULES FOR THE SADLER-BAKKEN POOL TO CREATE AN OVERLAPPING 2560-ACRE SPACING UNIT COMPRISED OF SECTIONS 14, 23, 26, AND 35, T.161N., R.95W., DIVIDE COUNTY, ND, AUTHORIZING THE DRILLING OF MULTIPLE HORIZONTAL WELLS FROM SAID WELL PAD WITHIN SAID OVERLAPPING 2560-ACRE SPACING UNIT, ELIMINATING ANY TOOL ERROR 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 23rd day of August, 2012. At that time, counsel for Continental Resources, Inc. (Continental) requested this case be continued to the regularly scheduled hearing in September, 2012. There were no objections, the hearing officer granted the request, and this case was scheduled for hearing on September 27, 2012. At that time, counsel for Continental requested this case be continued to the regularly scheduled hearing in October, 2012. There were no objections, the hearing officer granted the request, and this case was scheduled for hearing on October 25, 2012.

(2) The land and geology witnesses for 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 October 30, 2012; therefore, such testimony may be considered evidence.

(3) Continental made application to the Commission for an order amending the field rules for the Sadler-Bakken Pool to create an overlapping 2560-acre spacing unit comprised of Sections 14, 23, 26, and 35, Township 161 North, Range 95 West, Divide County, North Dakota (Sections 14, 23, 26, and 35), authorizing the drilling of multiple horizontal wells from well pads within said overlapping 2560-acre spacing unit, eliminating any tool error requirements, and such other relief as is appropriate.

(4) Order No. 15619 entered in Case No. 13342, 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, and Zone III at up to seven horizontal wells per 1280 acres.

(5) Sections 14 and 23; and Sections 26 and 35 are currently standup 1280-acre spacing units in Zone III in the Sadler-Bakken Pool.

(6) The Continental #1-14H Melgaard well (File No. 18683) is a horizontal well completed in the middle member of the Bakken Formation in the standup 1280-acre spacing unit described as Sections 14 and 23 from a surface location 230 feet from the north line and 1320 feet from the east line of Section 14 to a bottom hole location in the SE/4 SE/4 of Section 23. The Continental #1-35H Bratlien well (File No. 17666) is a horizontal well completed in the upper Three Forks Formation in the standup 1280-acre spacing unit described as Sections 26 and 35 from a surface location 420 feet from the south line and 1320 feet from the west line of Section 35 to a bottom hole location in the NE/4 NW/4 of Section 26. The Continental #2-35H Bratlien well (File No. 19749) is a horizontal well completed in the middle member of the Bakken Formation in the standup 1280-acre spacing unit described as Sections 26 and 35 from a surface location 400 feet from the south line and 1037 feet from the west line of Section 35 to a bottom hole location in the NW/4 NW/4 of Section 26. These wells should remain on their existing 1280-acre spacing units.

(7) Continental proposes to further develop the middle member of the Bakken Formation and the upper Three Forks Formation in the Sadler-Bakken Pool underlying Sections 14, 23, 26, and 35 by drilling ten additional horizontal wells. Six horizontal wells will be drilled from a common drilling pad near the center of the S/2 of Section 23, with a horizontal well drilled in the upper Three Forks Formation 1980 feet from the west spacing unit boundary to a bottom hole location approximately 200 feet from the north line of Section 14, a horizontal well drilled in the middle member of the Bakken Formation 2640 feet from the west spacing unit boundary to a bottom hole location approximately 200 feet from the north line of Section 14, a horizontal well drilled in the upper Three Forks Formation 1980 feet from the east spacing unit boundary to a bottom hole location approximately 200 feet from the north line of Section 14, a horizontal well drilled in the middle member of the Bakken Formation 1980 feet from the west spacing unit boundary to a bottom hole location approximately 200 feet from the south line of Section 35, a horizontal well drilled in the upper Three Forks Formation 2640 feet from the west spacing unit boundary to a bottom hole location approximately 200 feet from the south line of Section 35, and a horizontal well drilled in the middle member of the Bakken Formation 1980 feet from the east spacing unit boundary to a bottom hole location approximately 200 feet from the south line of Section 35. Two horizontal wells will be drilled from a common drilling pad in the NE/4 of Section 26, with a horizontal well drilled in the upper Three Forks Formation 1320 feet from the east spacing unit boundary to a bottom hole location approximately 200 feet from the south line of Section 35, and a horizontal well drilled in the middle member of the Bakken Formation 660 feet from the east spacing unit boundary to a bottom hole location approximately 200 feet from the south line of Section 35. Two horizontal wells will be drilled from a common drilling pad in the SW/4 of Section 23, with a horizontal well drilled in the middle member of the Bakken Formation 1320 feet from the west spacing unit boundary to a bottom hole location approximately 200 feet from the north line of Section 14, and a horizontal well drilled in the upper Three Forks Formation 660 feet from the west spacing unit boundary to a bottom hole location approximately 200 feet from the north line of Section 14.

Utilization of horizontal drilling technology as proposed would result in the wells being completed at a location or locations not in compliance with current applicable spacing orders for the Sadler-Bakken Pool. The horizontal well designs proposed may be preliminary and could be changed for various reasons which is permissible as long as the horizontal well design still justifies the spacing unit.

(8) Continental plans to drill an additional horizontal well in the standup 1280-acre spacing unit described as Sections 14 and 23 in the upper Three Forks Formation 660 feet from the east boundary from the common drilling pad in the NE/4 of Section 26. Continental testified they are willing to drill this well prior to drilling the wells in the 2560-acre spacing unit.

(9) Sections 14 and 23; and Sections 26 and 35 should be moved to a zone of 1280-acre spacing with two horizontal wells allowed.

(10) The Commission will take administrative notice of the testimony given in Case No. 12244 which was scheduled on a motion of the Commission to consider the establishment of 2560-acre drilling or spacing units in the Bakken Pool for future horizontal wells in North Dakota, and such other relief as is appropriate, heard on March 23, 2010. Order No. 14496 entered in Case No. 12244 established criteria for the Commission to consider when determining whether establishment of a 2560-acre drilling or spacing unit is justified.

(11) One of the criteria listed in Order No. 14496 was that a minimum of six horizontal wells must be drilled and completed in a reasonable time-frame. Development must occur with horizontal wells placed in the E/2 and W/2 of each former or potential 1280-acre drilling or spacing unit. Due to this constraint, Continental must drill the first horizontal wells in the proposed 2560-acre spacing unit described as Sections 14, 23, 26, and 35 from the center common drilling pad.

(12) 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. The Commission enforces a tool error policy which requires measurement inaccuracies in the directional survey equipment be considered when the angle between the horizontal lateral and the corresponding spacing unit boundary is ten degrees or less. Waiving potential tool error in the directional survey equipment when calculating the bottom hole location of any horizontal well drilled in spacing units which allow multiple horizontal wells will allow said spacing units to be more efficiently developed.

(13) Allowing the Melgaard #1-14H, Bratlien #1-35H, and Bratlien #2-35H wells, and the proposed horizontal well described in paragraph (8) above, to produce from their existing spacing units, will provide maximum ultimate recovery from the Sadler-Bakken Pool in a manner that will protect correlative rights.

(14) Continental testified there are challenging topographic features in the proposed 2560-acre spacing unit which make it difficult to locate individual well pads. In particular, there are bodies of water, and in the SE/4 of Section 23, a United States Fish and Wildlife Service tract which precludes well surface locations.

(15) LeRoy Gilbertson, Trustee of the Gilbertson Partnership Trust (Gilbertson), a mineral interest owner in Section 23, submitted an objection to this application believing it will violate their correlative rights. Gilbertson performed an analysis of the three current wells in Sections 14, 23, 26, and 35. Gilbertson's analysis of the Melgaard #1-14H, Bratlein #1-35H, and Bratlein #2-35H wells indicates the Melgaard #1-14H well, completed in the middle member of the Bakken Formation, averaged 4583 barrels of oil per month (BOPM) over a 27-month period; the Bratlien #1-35H well, completed in the upper Three Forks Formation averaged 3470 BOPM over a 37-month period; and the Bratlien #2-35H well, completed in the middle member of the Bakken Formation, averaged 4332 BOPM over a 14-month period. Gilbertson's analysis of the Melgaard #1-14H, Bratlein #1-35H, and Bratlein #2-35H wells over a 14-month period indicates they averaged 6354 BOPM, 5508 BOPM, and 4332 BOPM, respectively. Gilbertson's analysis of the Melgaard #1-14H and Bratlein #1-35H wells over a 27-month period indicates they averaged 4583 BOPM and 4142 BOPM, respectively.

Gilbertson concludes the 1280-acre spacing unit described as Sections 14 and 23 is a higher producing spacing unit compared to the 1280-acre spacing unit described as Sections 26 and 35, and thus the mineral owners in Sections 14 and 23 will be forced to share production from the higher producing spacing unit with those in the lower producing spacing unit if this application is approved. Gilbertson acknowledges if both spacing units had the same production levels, it would not make any difference.

Gilbertson believes two horizontal wells should be drilled in the spacing unit described as Sections 14 and 23, which Continental has agreed to.

Gilbertson requested if the Commission approves this application it stipulate that the production from the Melgaard #1-14H well not be pooled as requested in Case No. 18947, stipulate that the production of all future wells in the 2560-acre spacing unit be allocated according to Order No. 15619 and not be pooled as requested in Case No. 18947, and stipulate that an equal number of wells be drilled in each 1280-acre spacing unit.

(16) Case No. 18947, also heard on today's docket, is an application by Continental for an order pursuant to NDAC Section 43-02-03-88.1 pooling all interests for wells drilled on the overlapping spacing unit described as Sections 14, 23, 26, and 35, Sadler-Bakken Pool, as provided by NDCC Section 38-08-08 but not reallocating production for wells producing on other spacing units, and such other relief as is appropriate.

(17) Continental testified the Bakken and Three Forks Formation reservoirs throughout the proposed 2560-acre spacing unit have uniform thickness, porosity, and permeability and there is an absence of major structural anomalies such as faults.

(18) Continental will utilize multi-well drilling pads to drill the proposed horizontal wells on each common drilling pad in the proposed 2560-acre spacing unit in succession and the proposed development plan is such that the 2560-acre spacing unit will be fully developed.

(19) Continental estimates construction of three common drilling pads instead of eleven individual drilling pads results in approximately 23.2 acres less surface disturbance, and will reduce the expenditure of funds on drilling pad construction and surface facilities and enhance the economics of production, thereby preventing economic waste and promoting the greatest ultimate

recovery of oil and gas from the Sadler-Bakken Pool. Continental plans to drill the two or six surface casing well bores and set and cement surface casing in all, then drill the intermediate casing well bores and set and cement intermediate casing in all, then drill the horizontal laterals on each common drilling pad. Continental estimates a common drilling pad and the batch drilling process results in a $700,000 to $800,000 savings per well. Common drilling pads will improve the timing and economics of connecting wells to gas gathering systems thereby reducing gas flaring and will minimize surface disturbance and enhance the aesthetic values resulting from fewer or concentrated production facilities.

(20) Continental predicts a 2560-acre spacing unit will allow them to recover an additional 10,000 barrels-of-oil-equivalent per well due to additional productive lateral in the pool.

(21) Continental owns approximately 54.14% of the leasehold estate in Sections 14 and 23, approximately 49.51% of the leasehold estate in Sections 26 and 35, and approximately 51.83% of the leasehold estate in the proposed 2560-acre spacing unit described as Sections 14, 23, 26, and 35. Continental is the largest leasehold estate owner in both 1280-acre spacing units and the 2560-acre spacing unit.

(22) Continental testified and submitted supporting exhibits indicating the Melgaard #1-14H well was completed in the middle member of the Bakken Formation with 9500 feet of potential producible lateral that was fracture stimulated in 24 stages with 44,309 barrels of fluid and 2,170,640 pounds of proppant (225,070 pounds of 40/70 white sand, 1,601,570 pounds of 20/40 white sand, and 569,070 pounds of 20/40 ceramic). There are portions of the lateral as drilled that are lower or higher than the target zone resulting in 550 feet of lateral not drilled in the "clean" middle Bakken member, resulting in a net producible lateral length of 8950 feet. The estimated ultimate recovery is 498,000 barrels of oil equivalent.

The Bratlien #2-35H well was completed in the middle member of the Bakken Formation with 9530 feet of potential producible lateral that was fracture stimulated in 24 stages with 46,194 barrels of fluid and 2,821,340 pounds of proppant (227,300 pounds of 40/70 white sand, 1,964,950 pounds of 20/40 white sand, and 856,390 pounds of 20/40 ceramic). There are portions of the lateral as drilled that are lower than the target zone resulting in 2450 feet of lateral not drilled in the "clean" middle Bakken member, resulting in a net producible lateral length of 7080 feet. The estimated ultimate recovery is 323,000 barrels of oil equivalent.

The estimated ultimate recovery in the Bratlien #2-35H well is 65% of the estimated ultimate recovery in the Melgaard #1-14H well while the Bratlien #2-35H well has 79% of the net producible lateral compared to the Melgaard #1-14H well. Continental believes the difference in estimated ultimate recoveries is due to differences in the permeability between the "clean" middle Bakken member at 0.23 millidarcys and the lower portion of the middle Bakken member at 0.001 millidarcys; a well drilled with more lateral in the “clean" middle Bakken member will produce better than a well with more lateral in the lower portion of the middle Bakken member. Continental testified the fractures in the tighter portion of the reservoir will seal when pressure from the fracture stimulation is released.

(23) Continental testified they believe the middle member of the Bakken Formation and the upper Three Forks Formation wells will be equivalent throughout the 2560-acre spacing unit based

upon no difference in the reservoirs. Continental plans to complete the future wells with standard 30-stage fracture stimulations.

(24) Continental believes the difference between the estimated ultimate recoveries is based upon the amount of lateral in the “clean" middle Bakken member versus the lower portion of the middle Bakken member and not on reservoir quality.

(25) The Commission concurs with Continental's rationale explaining the differences in estimated ultimate recoveries.

(26) Establishment of the 2560-acre spacing unit will provide for orderly development and protect correlative rights.

(27) 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.

IT IS THEREFORE ORDERED:

(1) Sections 14, 23, 26, and 35, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby established as a standup 2560-acre spacing unit for the exclusive purpose of drilling a minimum of four horizontal wells, up to ten horizontal wells, within said spacing unit within the Sadler-Bakken Pool and Zone VI is hereby created 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 Sadler-Bakken Pool.

(2) A second horizontal well shall be completed in the standup 1280-acre spacing unit described as Sections 14 and 23, Township 161 North, Range 95 West, Divide County, North Dakota, prior to completing any horizontal well in the standup 2560-acre spacing unit described as Sections 14, 23, 26, and 35, Township 161 North, Range 95 West, Divide County, North Dakota.

(3) The first horizontal wells drilled in the standup 2560-acre spacing unit described as Sections 14, 23, 26, and 35, Township 161 North, Range 95 West, Divide County, North Dakota, shall be drilled from the center common drilling pad.

(4) Four horizontal wells shall be drilled and completed in the standup 2560-acre spacing unit described as Sections 14, 23, 26, and 35, Township 161 North, Range 95 West, Divide County, North Dakota, within 12 months of each other, two in Sections 14 and 23 and two in Sections 26 and 35. If this condition is not met, the Commission shall schedule the matter for hearing to consider the appropriate spacing unit size.

(5) Sections 14 and 23; and Sections 26 and 35, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby established as standup 1280-acre spacing units for the exclusive purpose of drilling up to two horizontal wells within each said spacing unit within the Sadler-Bakken Pool and Zone IV is hereby created to include said spacing units. Existing and future vertical and directional wells drilled within the spacing units herein established shall conform

to the applicable spacing requirements providing for the orderly development of Zone I in the Sadler-Bakken Pool.

(6) The Director is hereby authorized to exercise continuing jurisdiction in this matter to determine whether a horizontal well proposed or drilled upon the 1280 or 2560-acre spacing units 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.

(7) The Sadler 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 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 21, 22, 23, 26, 27, 28, 33, 34 AND 35, AND THE N/2 OF SECTION 20.

(8) The Sadler-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 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 21, 22, 23, 26, 27, 28, 33, 34 AND 35, AND THE N/2 OF SECTION 20*.

*Note Section 20 is part of a 1280-acre spacing unit consisting of Sections 17 and 20, Township 161 North, Range 95 West, Divide County, North Dakota, in the Dolphin-Bakken Pool.

ZONE II (640H)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTION 17.

ZONE III (1280H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 16, 21, 28 AND 33.

ZONE IV (2/1280H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 14, 15, 22, 23, 26, 27, 34 AND 35.

ZONE V (7/1280H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 2, 3, 4, 5, 6, 7, 8, 9, 10 AND 11.

ZONE VI (4-10/2560H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 14, 15, 22, 23, 26, 27, 34 AND 35.

ZONE VII (4-12/2560H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 95 WEST, 5TH PM
ALL OF SECTIONS 16, 21, 28 AND 33.

(9) The Sadler-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.

(10) The proper spacing for the development of Zone I in the Sadler-Bakken Pool is hereby set at one well per 160-acre spacing unit.

(11) All wells in Zone I in the Sadler-Bakken Pool shall be located not less than 500 feet from a spacing unit boundary. Wells presently permitted to or producing from the pool that do not conform to this spacing pattern shall be considered exceptions.

(12) Spacing units in Zone I in the Sadler-Bakken Pool shall consist of a governmental quarter section or governmental lots corresponding thereto.

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

(14) Provisions established herein for Zone II in the Sadler-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 (8) above shall conform to the applicable spacing requirements for the orderly development of Zone I in the Sadler-Bakken Pool.

(15) The proper spacing for the development of Zone II in the Sadler-Bakken Pool is hereby set at one horizontal well per 640-acre spacing unit.

(16) All portions of the well bore not isolated by cement of any horizontal well in Zone II in the Sadler-Bakken Pool shall be no closer than 500 feet to the boundary of the spacing unit the lateral is most nearly parallel to and 200 feet to the boundary of the spacing unit the lateral is most nearly perpendicular to. Measurement inaccuracies in the directional survey equipment need not be considered except when deemed necessary by the Director.

(17) Section 17, Township 161 North, Range 95 West, Divide County, North Dakota, is hereby designated a 640-acre spacing unit in Zone II in the Sadler-Bakken Pool.

(18) Spacing units in Zone II in the Sadler-Bakken Pool shall consist of a governmental section.

(19) Sections 17 and 20, Township 161 North, Range 95 West, Divide County, North Dakota, are also designated a 1280-acre spacing unit in the Dolphin-Bakken Pool.

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

(21) Provisions established herein for Zone III in the Sadler-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 (8) above shall conform to the applicable spacing requirements for the orderly development of Zone I in the Sadler-Bakken Pool.

(22) The proper spacing for the development of Zone III in the Sadler-Bakken Pool is hereby set at one horizontal well per standup 1280-acre spacing unit.

(23) All portions of the well bore not isolated by cement of any horizontal well in Zone III in the Sadler-Bakken Pool 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. Measurement inaccuracies in the directional survey equipment need not be considered except when deemed necessary by the Director.

(24) Sections 16 and 21; and Sections 28 and 33, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone III in the Sadler-Bakken Pool.

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

(26) Sections 16, 21, 28, and 33, Township 161 North, Range 95 West, Divide County, North Dakota, are also designated a standup 2560-acre spacing unit in Zone VII in the Sadler-Bakken Pool.

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

(28) Provisions established herein for Zone IV in the Sadler-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 (8) above shall conform to the applicable spacing requirements for the orderly development of Zone I in the Sadler-Bakken Pool.

(29) The proper spacing for the development of Zone IV in the Sadler-Bakken Pool is hereby set at up to two horizontal wells per standup 1280-acre spacing unit.

(30) All portions of the well bore not isolated by cement of any horizontal well in Zone IV in the Sadler-Bakken Pool 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. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well need not be considered.

(31) Sections 14 and 23; Sections 15 and 22; Sections 26 and 35; and Sections 27 and 34, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone IV in the Sadler-Bakken Pool.

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

(33) Sections 14, 23, 26, and 35; and Sections 15, 22, 27, and 34, Township 161 North, Range 95 West, Divide County, North Dakota, are also designated standup 2560-acre spacing units in Zone VI in the Sadler-Bakken Pool.

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

(35) Provisions established herein for Zone V in the Sadler-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 V in paragraph (8) above shall conform to the applicable spacing requirements for the orderly development of Zone I in the Sadler-Bakken Pool.

(36) The proper spacing for the development of Zone V in the Sadler-Bakken Pool is hereby set at up to seven horizontal wells per standup 1280-acre spacing unit.

(37) All portions of the well bore not isolated by cement of any horizontal well in Zone V in the Sadler-Bakken Pool 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. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well need not be considered.

(38) Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; and Sections 6 and 7, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone V in the Sadler-Bakken Pool.

(39) Spacing units hereafter created in Zone V in the Sadler-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

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

(41) Provisions established herein for Zone VI in the Sadler-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 VI in paragraph (8) above shall conform to the applicable spacing requirements for the orderly development of Zone I in the Sadler-Bakken Pool.

(42) The proper spacing for the development of Zone VI in the Sadler-Bakken Pool is hereby set at a minimum of four horizontal wells, up to ten horizontal wells, per standup 2560-acre spacing unit.

(43) All portions of the well bore not isolated by cement of any horizontal well in Zone VI in the Sadler-Bakken Pool 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. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well need not be considered.

(44) Sections 14, 23, 26, and 35; and Sections 15, 22, 27, and 34, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby designated standup 2560-acre spacing units in Zone VI in the Sadler-Bakken Pool.

(45) A second horizontal well shall be completed in the standup 1280-acre spacing unit described as Sections 14 and 23, Township 161 North, Range 95 West, Divide County, North Dakota, prior to completing any horizontal well in the standup 2560-acre spacing unit described as Sections 14, 23, 26, and 35, Township 161 North, Range 95 West, Divide County, North Dakota.

(46) The first horizontal wells drilled in each standup 2560-acre spacing unit described as Sections 14, 23, 26, and 35; and Sections 15, 22, 27, and 34, Township 161 North, Range 95 West, Divide County, North Dakota, shall be drilled from the center common drilling pad.

(47) Four horizontal wells shall be drilled and completed in the standup 2560-acre spacing unit described as Sections 14, 23, 26, and 35, Township 161 North, Range 95 West, Divide County, North Dakota, within 12 months of each other, two in Sections 14 and 23 and two in Sections 26 and 35. If this condition is not met, the Commission shall schedule the matter for hearing to consider the appropriate spacing unit size.

(48) Four horizontal wells shall be drilled and completed in the standup 2560-acre spacing unit described as Sections 15, 22, 27, and 34, Township 161 North, Range 95 West, Divide County, North Dakota, within 12 months of each other, two in Sections 15 and 22 and two in Sections 27 and 34. If this condition is not met, the Commission shall schedule the matter for hearing to consider the appropriate spacing unit size.

(49) Spacing units hereafter created in Zone VI in the Sadler-Bakken Pool shall be standup spacing units consisting of four adjacent governmental sections.

(50) Sections 14 and 23; Sections 15 and 22; Sections 26 and 35; and Sections 27 and 34, Township 161 North, Range 95 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone IV in the Sadler-Bakken Pool.

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

(52) Provisions established herein for Zone VII in the Sadler-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 VII in paragraph (8) above shall conform to the applicable spacing requirements for the orderly development of Zone I in the Sadler-Bakken Pool.

(53) The proper spacing for the development of Zone VII in the Sadler-Bakken Pool is hereby set at a minimum of four horizontal wells, up to twelve horizontal wells, per standup 2560-acre spacing unit.

(54) All portions of the well bore not isolated by cement of any horizontal well in Zone VII in the Sadler-Bakken Pool 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. Measurement inaccuracies in the directional survey equipment when calculating the bottom hole location in a horizontal well need not be considered.

(55) Sections 16, 21, 28, and 33, Township 161 North, Range 95 West, Divide County, North Dakota, are hereby designated a standup 2560-acre spacing unit in Zone VII in the Sadler-Bakken Pool.

(56) The first horizontal wells drilled in the standup 2560-acre spacing unit described as Sections 16, 21, 28, and 33, Township 161 North, Range 95 West, Divide County, North Dakota, shall be drilled from the center common drilling pad.

(57) Four horizontal wells shall be drilled and completed in the standup 2560-acre spacing unit described as Sections 16, 21, 28, and 33, Township 161 North, Range 95 West, Divide County, North Dakota, within 12 months of each other, two in Sections 16 and 21 and two in Sections 28 and 33. If this condition is not met, the Commission shall schedule the matter for hearing to consider the appropriate spacing unit size.

(58) Spacing units hereafter created in Zone VII in the Sadler-Bakken Pool shall be standup spacing units consisting of four adjacent governmental sections.

(59) Sections 16 and 21; and Sections 28 and 33, Township 161 North, Range 95 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone III in the Sadler-Bakken Pool.

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

(61) The operator of any horizontally drilled well in the Sadler-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.

(62) 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 Sadler-Bakken Pool.

(63) 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 Sadler-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 Sadler-Bakken Pool as the Commission deems appropriate.

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

(65) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Sadler-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. 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 shall have 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;

(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 manner to protect and isolate all formations containing oil and/or gas, protect the pipe through salt sections encountered, and to 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 shall have 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.

(66) 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 Sadler-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 6280 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.

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

(68) All wells in the Sadler-Bakken 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 well-head 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.

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

(70) This order shall cover all of the Sadler-Bakken Pool common source of supply of crude oil and/or natural gas as herein defined, and all provisions of the pool 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 2nd day of October, 2013.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

By the Director, on behalf of the Commission

/s/ Lynn D. Helms, Director