

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 20793
ORDER NO. 23099

IN THE MATTER OF A HEARING CALLED ON
A MOTION OF THE COMMISSION TO
CONSIDER THE APPLICATION OF SAMSON
RESOURCES CO. FOR AN ORDER AMENDING
THE FIELD RULES FOR THE AMBROSE-
BAKKEN POOL TO CREATE AND ESTABLISH
AN OVERLAPPING 1280-ACRE SPACING UNIT
COMPRISED OF SECTIONS 27 AND 34, T.163N.,
R.99W., DIVIDE COUNTY, ND, AUTHORIZING
THE DRILLING OF A TOTAL NOT TO EXCEED
SEVEN WELLS ON SAID OVERLAPPING 1280-
ACRE SPACING UNIT, 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 29th day of August, 2013.
- (2) The witnesses for Samson Resources Company (Samson) 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 September 3, 2013; therefore, such testimony may be considered evidence.
- (3) Samson made application to the Commission for an order amending the field rules for the Ambrose-Bakken Pool to create and establish an overlapping 1280-acre spacing unit comprised of Sections 27 and 34, Township 163 North, Range 99 West, Divide County, North Dakota (Sections 27 and 34), authorizing the drilling of a total not to exceed seven wells on said overlapping 1280-acre spacing unit, and such other relief as is appropriate.
- (4) Order No. 22099 entered in Case No. 19792, the most recent spacing order for the Ambrose-Bakken Pool, established proper spacing for the development of Zone I at one horizontal well per 640 acres, Zone II at up to three horizontal wells per 640 acres, Zone III at one horizontal well per 800 acres, Zone IV at up to seven horizontal wells per 800 acres, Zones V and VI at one horizontal well per 1280 acres, Zone VII at up to seven horizontal wells per 1280 acres, Zone VIII at a minimum of four horizontal wells, up to twelve horizontal wells, per 2080 acres, Zone IX at one horizontal well per 2560 acres, and Zone X at up to thirteen horizontal wells per 2560 acres.
- (5) Section 27; and Section 34 are currently 640-acre spacing units in Zone I in the Ambrose-Bakken Pool.

(6) The Samson #27-163-99H Vassen well (File No. 18255) is a horizontal well completed in the upper Three Forks Formation in the 640-acre spacing unit described as Section 27 from a surface location 250 feet from the south line and 300 feet from the east line to a bottom hole location in the NW/4 NW/4. The Baytex Energy USA Limited #1DQ Geralyn Marie 34-163-99H well (File No. 20569) is a horizontal well completed in the upper Three Forks Formation in the 640-acre spacing unit described as Section 34 from a surface location 341 feet from the north line and 400 feet from the west line to a bottom hole location in the SE/4 SE/4. These wells should remain on their existing 640-acre spacing units.

(7) Samson's idealized development plan for the standup 1280-acre spacing unit described as Sections 27 and 34 is to drill seven horizontal wells 660 feet apart parallel to the long axis of the spacing unit, four in the middle member of the Bakken Formation alternating with three in the Three Forks Formation. Samson plans to drill three wells from each of two common drilling pads and one well from a single-well pad along the north line of Section 27. 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 Ambrose-Bakken Pool. The horizontal well design 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) Allowing such common drilling pads will reduce the expenditure of funds on surface facilities and enhance the economics of production, thereby preventing economic waste and promoting the greatest ultimate recovery of oil and gas from the Ambrose-Bakken Pool. Utilization of such 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 production facilities.

(9) Samson requested any tool error in the directional survey equipment when calculating the bottom hole location of any horizontal lateral drilled in the spacing unit be waived. The Commission enforces a 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 lateral in spacing units which allow multiple horizontal wells will allow said spacing units to be more efficiently developed.

(10) Allowing the Vassen #27-163-99H and Geralyn Marie 34-163-99H #1DQ wells to continue to produce from their existing spacing units will provide maximum ultimate recovery from the Ambrose-Bakken Pool in a manner that will protect correlative rights.

(11) Samson estimates the additional oil and gas to be recovered by each additional well will pay for the cost of drilling and completing the well and yield a profit, hence, each additional well will be economic.

(12) There were no objections to this application.

(13) If Samson'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.

(14) In order to prevent waste, avoid the drilling of unnecessary wells, and protect correlative rights, this application should be approved.

IT IS THEREFORE ORDERED:

(1) Sections 27 and 34, Township 163 North, Range 99 West, Divide County, North Dakota, are hereby established as a standup 1280-acre spacing unit for the exclusive purpose of drilling up to seven horizontal wells within said spacing unit within the Ambrose-Bakken Pool and Zone VII is hereby extended to include said spacing unit. Existing and future vertical and directional wells drilled within the spacing unit herein established shall not be subject to this order.

(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) Provisions established herein for the Ambrose-Bakken Pool are for the exclusive purpose of drilling horizontal wells. Existing and future vertical and directional wells drilled within the area defined in paragraph (4) below shall not be subject to this order.

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

TOWNSHIP 164 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 25, 26, 27, 28, 29, 32, 33, 34, 35 AND 36,

TOWNSHIP 164 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 30 AND 31,

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 AND 36,

TOWNSHIP 163 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 6, 7, 18, 19, 30 AND 31,

TOWNSHIP 162 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 1 THROUGH 36, INCLUSIVE,

TOWNSHIP 162 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 6, 7, 18, 19, 30 AND 31.

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

ZONE I (640H)

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 26, 27, 34 AND 35,

TOWNSHIP 163 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 30 AND 31,

TOWNSHIP 162 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 2, 3, 10, 11, 13, 14, 15, 22, 23, 24 AND 36.

ZONE II (3/640H)

TOWNSHIP 162 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 4, 5, 8 AND 9.

ZONE III (800H-STANDUP)

TOWNSHIP 164 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 25, 26, 27, 28, 29, 32, 33, 34, 35 AND 36.

ZONE IV (7/800H-STANDUP)

TOWNSHIP 164 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 30 AND 31.

ZONE V (1280H-STANDUP)

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 1, 2, 3, 4, 5, 8, 9, 10, 11, 12, 13, 14, 23, 24, 25 AND 36.

ZONE VI (1280H-LAYDOWN-OVERLAPPING 640S)

TOWNSHIP 162 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 4 AND 5.

ZONE VII (7/1280H-STANDUP)

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 15, 16, 17, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33 AND 34,

TOWNSHIP 163 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 6, 7, 18, 19, 30 AND 31,

TOWNSHIP 162 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 1, 6, 7, 12, 16, 17, 18, 19, 20, 21, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
AND 36,

TOWNSHIP 162 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 6, 7, 18, 19, 30 AND 31.

ZONE VIII (4-12/2080H-STANDUP)

TOWNSHIP 164 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 25, 26, 27, 28, 29, 32, 33, 34, 35 AND 36,

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 1, 2, 3, 4, 5, 8, 9, 10, 11 AND 12.

ZONE IX (2560H)

TOWNSHIP 163 NORTH, RANGE 100 WEST, 5TH PM
ALL OF SECTIONS 25* AND 36*,

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 16, 17, 18*, 19*, 20, 21, 28, 29, 30, 31, 32 AND 33,

*Sections 25, 36, 18, and 19 are within the West Ambrose Field.

TOWNSHIP 162 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 1 AND 12,

TOWNSHIP 162 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 6 AND 7.

ZONE X (13/2560H-STANDUP)

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 13, 14, 23, 24, 25, 26, 35 AND 36.

ZONE XI (2/4160H-STANDUP)

TOWNSHIP 164 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 25, 26, 29, 30*, 31*, 32, 35 AND 36,

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 1, 2, 5, 6*, 7*, 8, 11 AND 12.

*Sections 30, 31, 6, and 7 are within the West Ambrose Field.

ZONE XII (2/5120H-STANDUP)

TOWNSHIP 163 NORTH, RANGE 99 WEST, 5TH PM
ALL OF SECTIONS 13, 14, 15, 22, 23, 24, 25, 26, 27, 34, 35 AND 36,

TOWNSHIP 163 NORTH, RANGE 98 WEST, 5TH PM
ALL OF SECTIONS 18, 19, 30 AND 31.

(6) The Ambrose-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 100 feet below the top of the Three Forks Formation within the limits of the field as set forth above, with an exception as noted in Zone IX below.

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

(8) All portions of the well bore not isolated by cement of any horizontal well in Zone I in the Ambrose-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.

(9) Spacing units hereafter created in Zone I in the Ambrose-Bakken Pool shall consist of a governmental section.

(10) Sections 27 and 34, Township 163 North, Range 99 West; Sections 30 and 31, Township 163 North, Range 98 West; and Sections 25 and 36, Township 162 North, Range 99 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone VII in the Ambrose-Bakken Pool.

(11) Sections 14, 23, 26, and 35, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated a standup 2560-acre spacing unit in Zone X in the Ambrose-Bakken Pool.

(12) Sections 13, 14, 23, 24, 25, 26, 35, and 36; Sections 14, 15, 22, 23, 26, 27, 34, and 35, Township 163 North, Range 99 West; and Sections 13, 24, 25, and 36, Township 163 North, Range 99 West and Sections 18, 19, 30, and 31, Township 163 North, Range 98 West, Divide County, North Dakota, are also designated standup 5120-acre spacing units in Zone XII in the Ambrose-Bakken Pool.

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

(14) The proper spacing for the development of Zone II in the Ambrose-Bakken Pool is hereby set at up to three horizontal wells per 640-acre spacing unit.

(15) All portions of the well bore not isolated by cement of any horizontal well in Zone II in the Ambrose-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 when calculating the bottom hole location in a horizontal well need not be considered.

(16) Spacing units hereafter created in Zone II in the Ambrose-Bakken Pool shall consist of a governmental section.

(17) Sections 4 and 5, Township 162 North, Range 99 West, Divide County, North Dakota, are also designated a laydown 1280-acre spacing unit in Zone VI in the Ambrose-Bakken Pool.

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

(19) The proper spacing for the development of Zone III in the Ambrose-Bakken Pool is hereby set at one horizontal well per standup 800-acre spacing unit.

(20) All portions of the well bore not isolated by cement of any horizontal well in Zone III in the Ambrose-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.

(21) Sections 25 and 36; Sections 26 and 35; Sections 27 and 34; Sections 28 and 33; and Sections 29 and 32, Township 164 North, Range 99 West, Divide County, North Dakota, are hereby designated standup 800-acre spacing units in Zone III in the Ambrose-Bakken Pool.

(22) Spacing units hereafter created in Zone III in the Ambrose-Bakken Pool shall be standup spacing units designated by the Commission.

(23) Sections 25 and 36, Township 164 North, Range 99 West and Sections 1 and 12, Township 163 North, Range 99 West; Sections 26 and 35, Township 164 North, Range 99 West and Sections 2 and 11, Township 163 North, Range 99 West; Sections 27 and 34, Township 164 North, Range 99 West and Sections 3 and 10, Township 163 North, Range 99 West; Sections 28 and 33, Township 164 North, Range 99 West and Sections 4 and 9, Township 163 North, Range 99 West; and Sections 29 and 32, Township 164 North, Range 99 West and Sections 5 and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 2080-acre spacing units in Zone VIII in the Ambrose-Bakken Pool.

(24) Sections 25, 26, 35, and 36, Township 164 North, Range 99 West and Sections 1, 2, 11, and 12, Township 163 North, Range 99 West; and Sections 29, 30*, 31*, and 32, Township 164 North, Range 99 West and Sections 5, 6*, 7*, and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 4160-acre spacing units in Zone XI in the Ambrose-Bakken Pool.

*Sections 30, 31, 6, and 7 are within the West Ambrose Field.

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

(26) The proper spacing for the development of Zone IV in the Ambrose-Bakken Pool is hereby set at up to seven horizontal wells per standup 800-acre spacing unit.

(27) All portions of the well bore not isolated by cement of any horizontal well in Zone IV in the Ambrose-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.

(28) Sections 30 and 31, Township 164 North, Range 98 West, Divide County, North Dakota, are hereby designated a standup 800-acre spacing unit in Zone IV in the Ambrose-Bakken Pool.

(29) Spacing units hereafter created in Zone IV in the Ambrose-Bakken Pool shall be standup spacing units designated by the Commission.

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

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

(32) All portions of the well bore not isolated by cement of any horizontal well in Zone V in the Ambrose-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.

(33) Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 13 and 24; Sections 14 and 23; and Sections 25 and 36, Township 163 North, Range 99 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone V in the Ambrose-Bakken Pool.

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

(35) Sections 25 and 36, Township 164 North, Range 99 West and Sections 1 and 12, Township 163 North, Range 99 West; Sections 26 and 35, Township 164 North, Range 99 West and Sections 2 and 11, Township 163 North, Range 99 West; Sections 27 and 34, Township 164 North, Range 99 West and Sections 3 and 10, Township 163 North, Range 99 West; Sections 28 and 33, Township 164 North, Range 99 West and Sections 4 and 9, Township 163 North, Range 99 West; and Sections 29 and 32, Township 164 North, Range 99 West and Sections 5 and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 2080-acre spacing units in Zone VIII in the Ambrose-Bakken Pool.

(36) Sections 13, 24, 25, and 36; and Sections 14, 23, 26, and 35, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 2560-acre spacing units in Zone X in the Ambrose-Bakken Pool.

(37) Sections 25, 26, 35, and 36, Township 164 North, Range 99 West and Sections 1, 2, 11, and 12, Township 163 North, Range 99 West; and Sections 29, 30*, 31*, and 32, Township 164 North, Range 99 West and Sections 5, 6*, 7*, and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 4160-acre spacing units in Zone XI in the Ambrose-Bakken Pool.

*Sections 30, 31, 6, and 7 are within the West Ambrose Field.

(38) Sections 13, 14, 23, 24, 25, 26, 35, and 36; Sections 14, 15, 22, 23, 26, 27, 34, and 35, Township 163 North, Range 99 West; and Sections 13, 24, 25, and 36, Township 163 North, Range 99 West and Sections 18, 19, 30, and 31, Township 163 North, Range 98 West, Divide County, North Dakota, are also designated standup 5120-acre spacing units in Zone XII in the Ambrose-Bakken Pool.

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

(40) The proper spacing for the development of Zone VI in the Ambrose-Bakken Pool is hereby set at one horizontal well per laydown 1280-acre spacing unit.

(41) All portions of the well bore not isolated by cement of any horizontal well in Zone VI in the Ambrose-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.

(42) Sections 4 and 5, Township 162 North, Range 99 West, Divide County, North Dakota, are hereby designated a laydown 1280-acre spacing unit in Zone VI in the Ambrose-Bakken Pool.

(43) Spacing units hereafter created in Zone VI in the Ambrose-Bakken Pool shall be laydown spacing units consisting of two adjacent governmental sections which overlap 640-acre spacing units.

(44) Section 4; and Section 5, Township 162 North, Range 99 West, Divide County, North Dakota, are also designated 640-acre spacing units in Zone II in the Ambrose-Bakken Pool.

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

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

(47) All portions of the well bore not isolated by cement of any horizontal well in Zone VII in the Ambrose-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.

(48) Sections 15 and 22; Sections 16 and 21; Sections 17 and 20; Sections 27 and 34; Sections 28 and 33; Sections 29 and 32; Sections 30 and 31, Township 163 North, Range 99 West; Sections 6 and 7; Sections 18 and 19; Sections 30 and 31, Township 163 North, Range 98 West; Sections 1 and 12; Sections 6 and 7; Sections 16 and 21; Sections 17 and 20; Sections 18 and 19; Sections 25 and 36; Sections 26 and 35; Sections 27 and 34; Sections 28 and 33; Sections 29 and 32; Sections 30 and 31, Township 162 North, Range 99 West; Sections 6 and 7; Sections 18 and 19; and Sections 30 and 31, Township 162 North, Range 98 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone VII in the Ambrose-Bakken Pool.

(49) Spacing units hereafter created in Zone VII in the Ambrose-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

(50) Section 27; Section 34, Township 163 North, Range 99 West; Section 30; Section 31, Township 163 North, Range 98 West; and Section 36, Township 162 North, Range 99 West, Divide County, North Dakota, are also designated 640-acre spacing units in Zone I in the Ambrose-Bakken Pool.

(51) Sections 16, 17, 20, and 21; Sections 17, 18*, 19*, and 20; Sections 28, 29, 32, and 33; Sections 29, 30, 31, and 32, Township 163 North, Range 99 West; Sections 25* and 36*, Township 163 North, Range 100 West and Sections 30 and 31, Township 163 North, Range 99 West; and Sections 1 and 12, Township 162 North, Range 99 West and Sections 6 and 7, Township 162 North, Range 98 West, Divide County, North Dakota, are also designated 2560-acre spacing units in Zone IX in the Ambrose-Bakken Pool.

*Sections 18, 19, 25, and 36 are within the West Ambrose Field.

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

(53) The proper spacing for the development of Zone VIII in the Ambrose-Bakken Pool is hereby set at a minimum of four horizontal wells, up to twelve horizontal wells, per standup 2080-acre spacing unit.

(54) All portions of the well bore not isolated by cement of any horizontal well in Zone VIII in the Ambrose-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 25 and 36, Township 164 North, Range 99 West and Sections 1 and 12, Township 163 North, Range 99 West; Sections 26 and 35, Township 164 North, Range 99 West and Sections 2 and 11, Township 163 North, Range 99 West; Sections 27 and 34, Township 164 North, Range 99 West and Sections 3 and 10, Township 163 North, Range 99 West; Sections 28 and 33, Township 164 North, Range 99 West and Sections 4 and 9, Township 163 North, Range 99 West; and Sections 29 and 32, Township 164 North, Range 99 West and Sections 5 and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are hereby designated standup 2080-acre spacing units in Zone VIII in the Ambrose-Bakken Pool.

(56) A mirror offset horizontal well to the Le Mans #11-2-163-99H well (File No. 20341) shall be drilled and completed in the standup 800-acre spacing unit described as Sections 26 and 35, Township 164 North, Range 99 West; Divide County, North Dakota; a mirror offset horizontal well to the Biscayne #0310-04TFH well (File No. 21363) shall be drilled and completed in the standup 800-acre spacing unit described as Sections 27 and 34, Township 164 North, Range 99 West; Divide County, North Dakota; a mirror offset horizontal well to the Skyline #4-9-163-99H well (File No. 20646) shall be drilled and completed in the standup 800-acre spacing unit described as Sections 28 and 33, Township 164 North, Range 99 West; Divide County, North Dakota; and a mirror offset horizontal well to the Thomte #8-5-163-99H well (File No. 20837) shall be drilled and completed in the standup 800-acre spacing unit described as Sections 29 and 32, Township 164

North, Range 99 West, Divide County, North Dakota, within twelve months of completing the first horizontal well in each respective standup 2080-acre spacing unit. A minimum of four horizontal wells shall be drilled and completed within each proposed standup 2080-acre spacing unit within twenty-four months from when the first horizontal well is completed in each respective standup 2080-acre spacing unit. If these conditions are not met, the Commission shall schedule the matter for consideration to reduce the size of the spacing unit.

(57) Spacing units hereafter created in Zone VIII in the Ambrose-Bakken Pool shall be standup spacing units designated by the Commission.

(58) Sections 25 and 36; Sections 26 and 35; Sections 27 and 34; Sections 28 and 33; and Sections 29 and 32, Township 164 North, Range 99 West, Divide County, North Dakota, are also designated standup 800-acre spacing units in Zone III in the Ambrose-Bakken Pool.

(59) Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; and Sections 5 and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone V in the Ambrose-Bakken Pool.

(60) Sections 25, 26, 35, and 36, Township 164 North, Range 99 West and Sections 1, 2, 11, and 12, Township 163 North, Range 99 West; and Sections 29, 30*, 31*, and 32, Township 164 North, Range 99 West and Sections 5, 6*, 7*, and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 4160-acre spacing units in Zone XI in the Ambrose-Bakken Pool.

*Sections 30, 31, 6, and 7 are within the West Ambrose Field.

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

(62) The proper spacing for the development of Zone IX in the Ambrose-Bakken Pool is hereby set at one horizontal well per 2560-acre spacing unit.

(63) The Ambrose-Bakken Pool in Zone IX is hereby defined as that accumulation of oil and gas found in the interval from the base of the Bakken Formation to 100 feet below the top of the Three Forks Formation in those 2560-acre spacing units described in paragraph (65) below. The Ambrose-Bakken Pool in the spacing unit described in paragraph (66) below is as described in paragraph (6) above.

(64) All portions of the well bore not isolated by cement of any horizontal well in Zone IX in the Ambrose-Bakken Pool shall be located approximately down the north-south axis and no closer than 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.

(65) Sections 16, 17, 20, and 21; Sections 17, 18*, 19*, and 20; Sections 28, 29, 32, and 33; Sections 29, 30, 31, and 32, Township 163 North, Range 99 West; and Sections 25* and 36*, Township 163 North, Range 100 West and Sections 30 and 31, Township 163 North, Range 99 West, Divide County, North Dakota, are hereby designated 2560-acre spacing units in Zone IX in the Ambrose-Bakken Pool.

*Sections 18, 19, 25, and 36 are within the West Ambrose Field.

(66) Sections 1 and 12, Township 162 North, Range 99 West and Sections 6 and 7, Township 162 North, Range 98 West, Divide County, North Dakota, are hereby designated a 2560-acre spacing unit in Zone IX in the Ambrose-Bakken Pool.

(67) Spacing units hereafter created in Zone IX in the Ambrose-Bakken Pool shall consist of four adjacent governmental sections designated by the Commission.

(68) Sections 16 and 21; Sections 17 and 20; Sections 28 and 33; Sections 29 and 32; Sections 30 and 31, Township 163 North, Range 99 West; Sections 1 and 12, Township 162 North, Range 99 West; and Sections 6 and 7, Township 162 North, Range 98 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone VII in the Ambrose-Bakken Pool.

(69) Sections 25 and 36, Township 163 North, Range 100 West; and Sections 18 and 19, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in the West Ambrose-Bakken Pool.

(70) Sections 25, 26, 35, and 36, Township 163 North, Range 100 West; and Sections 13 and 24, Township 163 North, Range 100 West and Sections 18 and 19, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated 2560-acre spacing units in the West Ambrose-Bakken Pool.

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

(72) The proper spacing for the development of Zone X in the Ambrose-Bakken Pool is hereby set at up to thirteen horizontal wells per standup 2560-acre spacing unit.

(73) All portions of the well bore not isolated by cement of any horizontal well in Zone X in the Ambrose-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.

(74) Sections 13, 24, 25, and 36; and Sections 14, 23, 26, and 35, Township 163 North, Range 99 West, Divide County, North Dakota, are hereby designated standup 2560-acre spacing units in Zone X in the Ambrose-Bakken Pool.

(75) Spacing units hereafter created in Zone X in the Ambrose-Bakken Pool shall be standup spacing units consisting of four adjacent governmental sections.

(76) Section 26; and Section 35, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated 640-acre spacing units in Zone I in the Ambrose-Bakken Pool.

(77) Sections 13 and 24; Sections 14 and 23; and Sections 25 and 36, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone V in the Ambrose-Bakken Pool.

(78) Sections 13, 14, 23, 24, 25, 26, 35, and 36; Sections 14, 15, 22, 23, 26, 27, 34, and 35, Township 163 North, Range 99 West; and Sections 13, 24, 25, and 36, Township 163 North, Range 99 West and Sections 18, 19, 30, and 31, Township 163 North, Range 98 West, Divide County, North Dakota, are also designated standup 5120-acre spacing units in Zone XII in the Ambrose-Bakken Pool.

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

(80) The proper spacing for the development of Zone XI in the Ambrose-Bakken Pool is hereby set at two horizontal wells per standup 4160-acre spacing unit.

(81) All portions of the well bore not isolated by cement of any horizontal well in Zone XI in the Ambrose-Bakken Pool shall be located approximately down the north-south axis and no closer than 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.

(82) Sections 25, 26, 35, and 36, Township 164 North, Range 99 West and Sections 1, 2, 11, and 12, Township 163 North, Range 99 West; and Sections 29, 30*, 31*, and 32, Township 164 North, Range 99 West and Sections 5, 6*, 7*, and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are hereby designated standup 4160-acre spacing units in Zone XI in the Ambrose-Bakken Pool.

*Sections 30, 31, 6, and 7 are within the West Ambrose Field.

(83) A horizontal well shall be completed in the standup 800-acre spacing unit described as Sections 26 and 35, Township 164 North, Range 99 West, Divide County, North Dakota, prior to completing any horizontal well in the standup 4160-acre spacing unit described as Sections 25, 26, 35, and 36, Township 164 North, Range 99 West and Sections 1, 2, 11, and 12, Township 163 North, Range 99 West, Divide County, North Dakota.

(84) In order to protect correlative rights and to justify the standup 4160-acre spacing units described as Sections 25, 26, 35, and 36, Township 164 North, Range 99 West and Sections 1, 2, 11, and 12, Township 163 North, Range 99 West; and Sections 29, 30*, 31*, and 32, Township 164 North, Range 99 West and Sections 5, 6*, 7*, and 8, Township 163 North, Range 99 West, Divide County, North Dakota, the two horizontal wells shall be drilled consecutively and target the same zone.

*Sections 30, 31, 6, and 7 are within the West Ambrose Field.

(85) Spacing units hereafter created in Zone XI in the Ambrose-Bakken Pool shall be designated by the Commission.

(86) Sections 25 and 36; Sections 26 and 35; and Sections 29 and 32, Township 164 North, Range 99 West, Divide County, North Dakota, are also designated standup 800-acre spacing units in Zone III in the Ambrose-Bakken Pool.

(87) Sections 30 and 31, Township 164 North, Range 99 West, Divide County, North Dakota, are also designated a standup 800-acre spacing unit in the West Ambrose-Bakken Pool.

(88) Sections 1 and 12; Sections 2 and 11; and Sections 5 and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone V in the Ambrose-Bakken Pool.

(89) Sections 6 and 7, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated a standup 1280-acre spacing unit in the West Ambrose-Bakken Pool.

(90) Sections 25 and 36, Township 164 North, Range 99 West and Sections 1 and 12, Township 163 North, Range 99 West; Sections 26 and 35, Township 164 North, Range 99 West and Sections 2 and 11, Township 163 North, Range 99 West; and Sections 29 and 32, Township 164 North, Range 99 West and Sections 5 and 8, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 2080-acre spacing units in Zone VIII in the Ambrose-Bakken Pool.

(91) Sections 30 and 31, Township 164 North, Range 99 West and Sections 6 and 7, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated a standup 2080-acre spacing unit in the West Ambrose-Bakken Pool.

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

(93) The proper spacing for the development of Zone XII in the Ambrose-Bakken Pool is hereby set at two horizontal wells per standup 5120-acre spacing unit.

(94) All portions of the well bore not isolated by cement of any horizontal well in Zone XII in the Ambrose-Bakken Pool shall be located approximately down the north-south axis and no closer than 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.

(95) Sections 13, 14, 23, 24, 25, 26, 35, and 36; Sections 14, 15, 22, 23, 26, 27, 34, and 35, Township 163 North, Range 99 West; and Sections 13, 24, 25, and 36, Township 163 North, Range 99 West and Sections 18, 19, 30, and 31, Township 163 North, Range 98 West, Divide County, North Dakota, are hereby designated standup 5120-acre spacing units in Zone XII in the Ambrose-Bakken Pool.

(96) In order to protect correlative rights and to justify the standup 5120-acre spacing units described as Sections 13, 14, 23, 24, 25, 26, 35, and 36; Sections 14, 15, 22, 23, 26, 27, 34, and 35, Township 163 North, Range 99 West; and Sections 13, 24, 25, and 36, Township 163 North, Range

99 West and Sections 18, 19, 30, and 31, Township 163 North, Range 98 West, Divide County, North Dakota, the two horizontal wells shall be drilled consecutively and target the same zone.

(97) Spacing units hereafter created in Zone XII in the Ambrose-Bakken Pool shall consist of eight adjacent governmental sections designated by the Commission.

(98) Sections 26, 27, 34, and 35, Township 163 North, Range 99 West; Section 30; and Section 31, Township 163 North, Range 98 West, Divide County, North Dakota, are also designated 640-acre spacing units in Zone I in the Ambrose-Bakken Pool.

(99) Sections 13 and 24; Sections 14 and 23; and Sections 25 and 36, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone V in the Ambrose-Bakken Pool.

(100) Sections 15 and 22, Township 163 North, Range 99 West; and Sections 18 and 19, Township 163 North, Range 98 West, Divide County, North Dakota, are also designated standup 1280-acre spacing units in Zone VII in the Ambrose-Bakken Pool.

(101) Sections 13, 24, 25, and 36; and Sections 14, 23, 26, and 35, Township 163 North, Range 99 West, Divide County, North Dakota, are also designated standup 2560-acre spacing units in Zone X in the Ambrose-Bakken Pool.

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

(103) The operator of any horizontally drilled well in the Ambrose-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.

(104) 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 Ambrose-Bakken Pool.

(105) 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 Ambrose-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 Ambrose-Bakken Pool as the Commission deems appropriate.

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

(107) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Ambrose-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 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;

(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.

(108) 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 Ambrose-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 5740 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.

(109) 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.

(110) All wells in the Ambrose-Bakken Pool shall be allowed to produce at a maximum efficient rate through September 30, 2013.

(111) After September 30, 2013, all wells in the Ambrose-Bakken Pool shall be allowed to produce at a maximum efficient rate for a period of 60 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; after that, oil production from such wells shall not exceed an average of 200 barrels per day for a period of 60 days; after that, oil production from such wells shall not exceed an average of 150 barrels per day for a period of 60 days, 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 120 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.

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

(113) This order shall cover all of the Ambrose-Bakken Pool, common source of supply of crude oil and/or natural gas as herein defined, and continues 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 27th day of September, 2013.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

By the Director, on behalf of the Commission

/s/ Lynn D. Helms, Director