

BEFORE THE INDUSTRIAL COMMISSION  
OF THE STATE OF NORTH DAKOTA

CASE NO. 19794  
(CONTINUED)  
ORDER NO. 22101

IN THE MATTER OF A HEARING CALLED ON  
A MOTION OF THE COMMISSION TO  
CONSIDER THE APPLICATION OF MUREX  
PETROLEUM CORP. TO CONSIDER THE  
TEMPORARY SPACING TO DEVELOP AN OIL  
AND/OR GAS POOL DISCOVERED BY THE  
LORI ANN #4-9H WELL LOCATED IN LOT 2 OF  
SECTION 4, T.161N., R.101W., DIVIDE  
COUNTY, ND, DEFINE THE LIMITS OF THE  
FIELD, AND ENACT SUCH SPECIAL FIELD  
RULES AS MAY BE NECESSARY.

TEMPORARY ORDER OF THE COMMISSION

THE COMMISSION FINDS:

(1) This cause originally came on for hearing at 9:00 a.m. on the 27th day of March, 2013. At that time, counsel for Murex Petroleum Corporation (Murex) requested this case be continued to the regularly scheduled hearing in April, 2013. There were no objections, the hearing officer granted the request, and this case was scheduled for hearing on April 24, 2013.

(2) The witness for Murex provided telephonic testimony in this matter pursuant to North Dakota Administrative Code (NDAC) Section 43-02-03-88.2. A Telephonic Communication Affidavit was received on May 1, 2013; therefore, such testimony may be considered evidence.

(3) The Lori Ann #4-9H well (File No. 24485), with a surface location 250 feet from the north line and 2000 feet from the east line of Section 4, Township 161 North, Range 101 West, Divide County, North Dakota (Section 4), was drilled horizontally through the Bakken Pool on a 1280-acre drilling unit, described as Section 4 and Section 9, Township 161 North, Range 101 West, Divide County, North Dakota (Section 9), pursuant to Order No. 14497.

(4) The Lori Ann #4-9H well was drilled as a single-lateral horizontal well in the middle member of the Bakken Formation to a bottom hole location approximately 246 feet from the south line and 2060 feet from the east line of Section 9.

(5) Section 4 is within the former Writing Rock Field.

(6) The Lori Ann #4-9H well discovered the Writing Rock-Bakken Pool.

(7) Murex requested the following lands be included in the field established for the Lori Ann #4-9H well:

TOWNSHIP 162 NORTH, RANGE 102 WEST, 5TH PM

ALL OF SECTIONS 25 AND 36,

TOWNSHIP 162 NORTH, RANGE 101 WEST, 5TH PM

ALL OF SECTIONS 3, 4, 5, 8, 9, 10, 17, 18, 19, 20, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35 AND 36,

TOWNSHIP 161 NORTH, RANGE 102 WEST, 5TH PM

ALL OF SECTIONS 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35 AND 36,

TOWNSHIP 161 NORTH, RANGE 101 WEST, 5TH PM

ALL OF SECTIONS 1 THROUGH 36, INCLUSIVE,

TOWNSHIP 161 NORTH, RANGE 100 WEST, 5TH PM

ALL OF SECTIONS 1 THROUGH 36, INCLUSIVE,

TOWNSHIP 160 NORTH, RANGE 101 WEST, 5TH PM

ALL OF SECTIONS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 AND 24.

(8) Murex requested standup 1280-acre spacing with up to eight horizontal wells allowed in the Bakken Pool be established for the field and pool established for the Lori Ann #4-9H well.

(9) Murex plans to develop other standup 1280-acre spacing units by drilling eight horizontal wells parallel to the long axis of the spacing unit, four in the middle member of the Bakken Formation alternating with four in the upper Three Forks Formation. 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.

(10) Murex requested any tool error in the directional survey equipment when calculating the bottom hole location of any horizontal lateral drilled in the spacing units 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.

(11) Sections 1 through 36, Township 161 North, Range 100 West, Divide County, North Dakota, are in the Alexandria-Bakken Pool; therefore these lands will not be considered for spacing in Case No. 19794.

(12) Sections 1 through 24, Township 160 North, Range 101 West, Divide County, North Dakota, are in the Sioux Trail-Bakken Pool; therefore these lands will not be considered for spacing in Case No. 19794.

(13) Order No. 14497 entered in Case No. 12245, also established Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 30 and 31, Township 161 North, Range 101 West, Divide County, North Dakota, as standup 1280-acre drilling units for the exclusive purpose of drilling one horizontal well within each said drilling unit within the Bakken Pool. These drilling units will be included as spacing units in the Writing Rock-Bakken Pool.

The Murex #2-11H Holice well (File No. 25714) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 2 and 11. The Murex #22-15H Lisa Marie well (File No. 24480) is a horizontal well drilling in the Bakken Pool in the drilling unit described as said Sections 15 and 22.

(14) The Commission does not as a matter of practice, establish pools without prior establishment of production in the field. However, in order to ease confusion and provide for orderly development in the area, the Fortuna-Bakken Pool should be established to prevent waste, avoid the drilling of unnecessary wells, and protect correlative rights. The operator of the first producing well in the Fortuna-Bakken Pool should submit exhibits to be included in the record for this case similar to those typically submitted in a temporary spacing hearing, subsequent to completing the first producing well in the Fortuna-Bakken Pool.

(15) Order No. 14497 entered in Case No. 12245, also established Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 30 and 31, Township 162 North, Range 101 West, Divide County, North Dakota, as standup 1280-acre drilling units for the exclusive purpose of drilling one horizontal well within each said drilling unit within the Bakken Pool. These drilling units will be included as spacing units in the Fortuna-Bakken Pool.

The Mountain Divide, LLC (Mountain Divide) #2-11S-1H Olson well (File No. 25668) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 2 and 11. The Mountain Divide #3-10-1H Leininger well (File No. 24185) is a horizontal well drilling in the Bakken Pool in the drilling unit described as said Sections 3 and 10. The Murex #4-9H Keri Elizabeth well (File No. 24587) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 4 and 9. The Mountain Divide #5-8-1H Wigness well (File No. 23900) is a horizontal well drilling in the Bakken Pool in the drilling unit described as said Sections 5 and 8. The Mountain Divide #7-6-1H Heckman well (File No. 25664) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 6 and 7. The Murex #15-22H Trina Diane well (File No. 25614) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 15 and 22. The Murex #16-21H Jennifer Abigail well (File No. 24642) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 16 and 21. The Murex #17-20H Lacey Marie well (File No. 25715) is a horizontal well permitted in the

Bakken Pool in the drilling unit described as said Sections 17 and 20. The Murex #34-27H Deanna Marie well (File No. 25713) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 27 and 34. The Murex #32-29H Marcelo Manuel well (File No. 25716) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 29 and 32.

(16) The SE/4 of Section 25 and the NE/4 of Section 36, Township 162 North, Range 102 West, Divide County, North Dakota, are within the former Clinton Field.

(17) The Commission does not as a matter of practice, establish pools without prior establishment of production in the field. However, in order to ease confusion and provide for orderly development in the area, the Clinton-Bakken Pool should be established to prevent waste, avoid the drilling of unnecessary wells, and protect correlative rights. The operator of the first producing well in the Clinton-Bakken Pool should submit exhibits to be included in the record for this case similar to those typically submitted in a temporary spacing hearing, subsequent to completing the first producing well in the Clinton-Bakken Pool.

(18) Order No. 14497 entered in Case No. 12245, also established Sections 25 and 36, Township 162 North, Range 102 West, Divide County, North Dakota, as a standup 1280-acre drilling unit for the exclusive purpose of drilling one horizontal well within said drilling unit within the Bakken Pool. This drilling unit will be included as a spacing unit in the Clinton-Bakken Pool.

The Crescent Point Energy US Corporation #25-36-162N-102W CPEC Marino well (File No. 24710) is a horizontal well permitted in the Bakken Pool in the drilling unit described as said Sections 25 and 36.

(19) The Commission does not as a matter of practice, establish pools without prior establishment of production in the field. However, in order to ease confusion and provide for orderly development in the area, the Daneville-Bakken Pool should be established to prevent waste, avoid the drilling of unnecessary wells, and protect correlative rights. The operator of the first producing well in the Daneville-Bakken Pool should submit exhibits to be included in the record for this case similar to those typically submitted in a temporary spacing hearing, subsequent to completing the first producing well in the Daneville-Bakken Pool.

(20) Order No. 14497 entered in Case No. 12245, also established Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 30 and 31, Township 161 North, Range 102 West, Divide County, North Dakota, as standup 1280-acre drilling units for the exclusive purpose of drilling one horizontal well within each said drilling unit within the Bakken Pool. These drilling units will be included as spacing units in the Daneville-Bakken Pool. There are no wells currently permitted to or producing from the Bakken Pool in said drilling units.

(21) Order No. 16714 entered in Case No. 14437, established Sections 25 and 36, Township 161 North, Range 103 West, Divide County, North Dakota, as a standup 1280-acre drilling unit for the exclusive purpose of drilling one horizontal well within said drilling unit within the Bakken

Pool. This drilling unit will be included as a spacing unit in the Daneville-Bakken Pool. There are no wells currently permitted to or producing from the Bakken Pool is said drilling unit.

(22) The Commission will take administrative notice of the testimony given in Case No. 12246 which was scheduled on a motion of the Commission to consider amending the current Bakken Pool field rules to eliminate or reduce the setbacks currently established for the heel and toe of horizontal wells in North Dakota, and such other relief as is appropriate, heard on March 23, 2010. Order No. 14498 entered in Case No. 12246 amended all current 660 or 500-foot setback requirements in any established Bakken Pool spacing unit or drilling unit relative to the heel and toe of a horizontal well to 200 feet.

(23) Geological and engineering evidence and testimony presented to the Commission relative to the matter of well spacing indicates the Writing Rock, Fortuna, and Daneville-Bakken Pools, as classified and defined in this order, should be developed on a pattern of one horizontal well per 1280 acres in Zone I, and up to eight horizontal wells per 1280 acres in Zone II, for the effective, economical, and efficient recovery of oil from said pools, to assure rapid development and provide maximum ultimate recovery, to avoid the drilling of unnecessary wells, and to prevent waste in a manner that will protect correlative rights.

(24) Geological and engineering evidence and testimony presented to the Commission relative to the matter of well spacing indicates the Clinton-Bakken Pool, as classified and defined in this order, should be developed on a pattern of one horizontal well per 1280 acres, for the effective, economical, and efficient recovery of oil from said pools, to assure rapid development and provide maximum ultimate recovery, to avoid the drilling of unnecessary wells, and to prevent waste in a manner that will protect correlative rights.

(25) There were no objections in this matter.

(26) Certain special field rules for the Writing Rock, Fortuna, Clinton, and Daneville-Bakken Pools are necessary to prevent waste and protect against the contamination and pollution of surface lands and fresh waters.

#### IT IS THEREFORE ORDERED:

(1) Order No. 14497 as it pertains to Sections 25 and 36, Township 162 North, Range 102 West; Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 30 and 31, Township 162 North, Range 101 West; Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 30 and 31, Township 161 North, Range 102 West; Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 30 and 31, Township 161 North, Range 101 West, Divide County, North Dakota, is hereby rescinded.

(2) Order No. 16714 as it pertains to Sections 25 and 36, Township 161 North, Range 103 West, Divide County, North Dakota, is hereby rescinded.

(3) Sections 30 and 31, Township 161 North, Range 101 West, Divide County, North Dakota, are hereby established as a standup 1280-acre spacing unit for the exclusive purpose of drilling one horizontal well within said spacing unit within the Writing Rock-Bakken Pool and Zone I is hereby created 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.

(4) Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 29 and 32, Township 161 North, Range 101 West, Divide County, North Dakota, are hereby established as standup 1280-acre spacing units for the exclusive purpose of drilling up to eight horizontal wells within each said spacing unit within the Writing Rock-Bakken Pool and Zone II is hereby created to include said spacing units. Existing and future vertical and directional wells drilled within the spacing units herein established shall not be subject to this order.

(5) Sections 25 and 36, Township 162 North, Range 102 West, Divide County, North Dakota, are hereby established as a standup 1280-acre spacing unit for the exclusive purpose of drilling one horizontal well within said spacing unit within the Clinton-Bakken Pool. Existing and future vertical and directional wells drilled within the spacing units herein established shall not be subject to this order.

(6) Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 25 and 36; and Sections 26 and 35, Township 162 North, Range 101 West, Divide County, North Dakota, are hereby established as standup 1280-acre spacing units for the exclusive purpose of drilling one horizontal well within each said spacing unit within the Fortuna-Bakken Pool and Zone I is hereby created to include said spacing units. Existing and future vertical and directional wells drilled within the spacing units herein established shall not be subject to this order.

(7) Sections 4 and 9; Sections 15 and 22; Sections 16 and 21; Sections 17 and 20; Sections 18 and 19; Sections 27 and 34; Sections 28 and 33; Sections 29 and 32; and Sections 30 and 31, Township 162 North, Range 101 West, Divide County, North Dakota, are hereby established as standup 1280-acre spacing units for the exclusive purpose of drilling up to eight horizontal wells within each said spacing unit within the Fortuna-Bakken Pool and Zone II is hereby created to include said spacing units. Existing and future vertical and directional wells drilled within the spacing units herein established shall not be subject to this order.

(8) Sections 25 and 36, Township 161 North, Range 103 West; Sections 2 and 11; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 15 and 22; Sections 16 and 21; Sections 17 and 20; Sections 18 and 19; Sections 25 and 36; Sections 28 and 33; Sections 29 and 32; and Sections 30 and 31, Township 161 North, Range 102 West, Divide County, North Dakota, are hereby established as standup 1280-acre spacing units for the exclusive purpose of drilling one horizontal well within each said spacing unit within the Daneville-Bakken Pool and Zone I is

hereby created to include said spacing units. Existing and future vertical and directional wells drilled within the spacing units herein established shall not be subject to this order.

(9) Sections 1 and 12; Sections 3 and 10; Sections 4 and 9; Sections 14 and 23; Sections 26 and 35; and Sections 27 and 34, Township 161 North, Range 102 West, Divide County, North Dakota, are hereby established as standup 1280-acre spacing units for the exclusive purpose of drilling up to eight horizontal wells within each said spacing unit within the Daneville-Bakken Pool and Zone II is hereby created to include said spacing units. Existing and future vertical and directional wells drilled within the spacing units herein established shall not be subject to this order.

(10) 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 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.

(11) The operator of the first producing well in the Clinton, Fortuna, and Daneville-Bakken Pools shall submit exhibits to be included in the record for this case, Case No. 19794, similar to those typically submitted in a temporary spacing hearing. Such exhibits must be submitted within 120 days after completing said wells.

(12) Provisions established herein for the Writing Rock-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 (13) below shall not be subject to this order.

(13) The Writing Rock Field is hereby redefined as the following described tracts of land in Divide County, North Dakota:

TOWNSHIP 161 NORTH, RANGE 101 WEST, 5TH PM  
ALL OF SECTIONS 1 THROUGH 36, INCLUSIVE.

(14) The Writing Rock-Bakken Pool is hereby defined as the following described tracts of land in Divide County, North Dakota:

ZONE I (1280H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 101 WEST, 5TH PM  
ALL OF SECTIONS 30 AND 31.

ZONE II (8/1280H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 101 WEST, 5TH PM  
ALL OF SECTIONS 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 32, 33, 34, 35 AND 36.

(15) The Writing Rock-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.

(16) The temporary spacing for the development of Zone I in the Writing Rock-Bakken Pool is hereby set at one horizontal well per standup 1280-acre spacing unit.

(17) All portions of the well bore not isolated by cement of any horizontal well in Zone I in the Writing Rock-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.

(18) Sections 30 and 31, Township 161 North, Range 101 West, Divide County, North Dakota, are hereby designated a standup 1280-acre spacing unit in Zone I in the Writing Rock-Bakken Pool.

(19) Spacing units hereafter created in Zone I in the Writing Rock-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

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

(21) The temporary spacing for the development of Zone II in the Writing Rock-Bakken Pool is hereby set at up to eight horizontal wells per standup 1280-acre spacing unit.

(22) All portions of the well bore not isolated by cement of any horizontal well in Zone II in the Writing Rock-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.

(23) Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 4 and 9; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 15 and 22; 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; and Sections 29 and 32, Township 161 North, Range 101 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone II in the Writing Rock-Bakken Pool.

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

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

(26) The operator of any horizontally drilled well in the Writing Rock-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.



(27) 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 Writing Rock-Bakken Pool.

(28) 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 Writing Rock-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 Writing Rock-Bakken Pool as the Commission deems appropriate.

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

(30) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Writing Rock-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.

(31) 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 Writing Rock-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 6150 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.

(32) 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.

(33) For the purposes of division of production to owners of interests in spacing units established by this order, and proven productive prior to the date hereof, this order shall be retroactive to the date of first production.

(34) All wells in the Writing Rock-Bakken Pool shall be allowed to produce at a maximum efficient rate through August 30, 2013.

(35) After August 30, 2013, all wells in the Writing Rock-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.

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

(37) This portion of this order shall cover all of the Writing Rock-Bakken Pool, common source of supply of crude oil and/or natural gas as herein defined, and continues in full force and effect until the 30th day of June, 2016. If the Writing Rock-Bakken Pool is still producing, the proper spacing for the pool will be considered by the Commission on or before its regularly scheduled hearing date in May, 2016. If, however, the Writing Rock-Bakken Pool is no longer producing when the proper spacing is to be considered, the Commission, at its own discretion, may refrain from scheduling a proper spacing hearing and may, without further notice, enter an order dismissing the proper spacing matter.

(38) The operator of the first producing well in the Clinton-Bakken Pool shall submit exhibits to be included in the record for this case, Case No. 19794, similar to those typically submitted in a temporary spacing hearing. Such exhibits must be submitted within 120 days after completing said well.

(39) Provisions established herein for the Clinton-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 (40) below shall not be subject to this order.

(40) The Clinton Field is hereby redefined as the following described tracts of land in Divide County, North Dakota:

TOWNSHIP 162 NORTH, RANGE 102 WEST, 5TH PM  
ALL OF SECTIONS 25 AND 36.

(41) The Clinton-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.

(42) The temporary spacing for the development of the Clinton-Bakken Pool is hereby set at one horizontal well per standup 1280-acre spacing unit.

(43) All portions of the well bore not isolated by cement of any horizontal well in the Clinton-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.

(44) Sections 25 and 36, Township 162 North, Range 102 West, Divide County, North Dakota, are hereby designated a standup 1280-acre spacing unit in the Clinton-Bakken Pool.

(45) Spacing units hereafter created in the Clinton-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

(46) The Clinton-Bakken Pool shall not be extended except by further order of the Commission after due notice and hearing.

(47) The operator of any horizontally drilled well in the Clinton-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.

(48) 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 Clinton-Bakken Pool.

(49) 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 Clinton-Bakken Pool; and, (2) make such further amendments or modifications to the spacing requirements for the Clinton-Bakken Pool as the Commission deems appropriate.

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

(51) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Clinton-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.

(52) 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 Clinton-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 6000 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.

(53) 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.

(54) For the purposes of division of production to owners of interests in spacing units established by this order, and proven productive prior to the date hereof, this order shall be retroactive to the date of first production.

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

(56) After August 30, 2013, all wells in the Clinton-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.

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

(58) This portion of this order shall cover all of the Clinton-Bakken Pool, common source of supply of crude oil and/or natural gas as herein defined, and continues in full force and effect until the 30th day of June, 2016. If the Clinton-Bakken Pool is still producing, the proper spacing for the pool will be considered by the Commission on or before its regularly scheduled hearing date in May, 2016. If, however, the Clinton-Bakken Pool is no longer producing when the proper spacing is to be considered, the Commission, at its own discretion, may refrain from scheduling a proper spacing hearing and may, without further notice, enter an order dismissing the proper spacing matter.

(59) The operator of the first producing well in the Fortuna-Bakken Pool shall submit exhibits to be included in the record for this case, Case No. 19794, similar to those typically submitted in a temporary spacing hearing. Such exhibits must be submitted within 120 days after completing said well.

(60) Provisions established herein for the Fortuna-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 (61) below shall not be subject to this order.

(61) The Fortuna Field is hereby redefined as the following described tracts of land in Divide County, North Dakota:

TOWNSHIP 162 NORTH, RANGE 101 WEST, 5TH PM  
ALL OF SECTIONS 1 THROUGH 36, INCLUSIVE.

(62) The Fortuna-Bakken Pool is hereby defined as the following described tracts of land in Divide County, North Dakota:

ZONE I (1280H-STANDUP)

TOWNSHIP 162 NORTH, RANGE 101 WEST, 5TH PM  
ALL OF SECTIONS 1, 2, 3, 5, 6, 7, 8, 10, 11, 12, 13, 14, 23, 24, 25, 26, 35 AND 36.

ZONE II (8/1280H-STANDUP)

TOWNSHIP 162 NORTH, RANGE 101 WEST, 5TH PM  
ALL OF SECTIONS 4, 9, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 31, 32, 33 AND 34.

(63) The Fortuna-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.

(64) The temporary spacing for the development of Zone I in the Fortuna-Bakken Pool is hereby set at one horizontal well per standup 1280-acre spacing unit.

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

(66) Sections 1 and 12; Sections 2 and 11; Sections 3 and 10; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 14 and 23; Sections 25 and 36; and Sections 26 and 35, Township 162 North, Range 101 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone I in the Fortuna-Bakken Pool.

(67) Spacing units hereafter created in Zone I in the Fortuna-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

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

(69) The temporary spacing for the development of Zone II in the Fortuna-Bakken Pool is hereby set at up to eight horizontal wells per standup 1280-acre spacing unit.

(70) All portions of the well bore not isolated by cement of any horizontal well in Zone II in the Fortuna-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.

(71) Sections 4 and 9; Sections 15 and 22; Sections 16 and 21; Sections 17 and 20; Sections 18 and 19; Sections 27 and 34; Sections 28 and 33; Sections 29 and 32; and Sections 30 and 31, Township 162 North, Range 101 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone II in the Fortuna-Bakken Pool.

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

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

(74) The operator of any horizontally drilled well in the Fortuna-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.

(75) 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 Fortuna-Bakken Pool.

(76) 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 Fortuna-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 Fortuna-Bakken Pool as the Commission deems appropriate.

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

(78) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Fortuna-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.

(79) 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 Fortuna-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 5800 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.

(80) 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.

(81) For the purposes of division of production to owners of interests in spacing units established by this order, and proven productive prior to the date hereof, this order shall be retroactive to the date of first production.

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

(83) After August 30, 2013, all wells in the Fortuna-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.

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

(85) This portion of this order shall cover all of the Fortuna-Bakken Pool, common source of supply of crude oil and/or natural gas as herein defined, and continues in full force and effect until the 30th day of June, 2016. If the Fortuna-Bakken Pool is still producing, the proper spacing for the pool will be considered by the Commission on or before its regularly scheduled hearing date in May, 2016. If, however, the Fortuna-Bakken Pool is no longer producing when the proper spacing is to be considered, the Commission, at its own discretion, may refrain from scheduling a proper spacing hearing and may, without further notice, enter an order dismissing the proper spacing matter.

(86) The operator of the first producing well in the Daneville-Bakken Pool shall submit exhibits to be included in the record for this case, Case No. 19794, similar to those typically submitted in a temporary spacing hearing. Such exhibits must be submitted within 120 days after completing said well.

(87) Provisions established herein for the Daneville-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 (88) below shall not be subject to this order.

(88) The Daneville Field is hereby redefined as the following described tracts of land in Divide County, North Dakota:

TOWNSHIP 161 NORTH, RANGE 103 WEST, 5TH PM  
ALL OF SECTIONS 25 AND 36,

TOWNSHIP 161 NORTH, RANGE 102 WEST, 5TH PM  
ALL OF SECTIONS 1 THROUGH 36, INCLUSIVE.

(89) The Daneville-Bakken Pool is hereby defined as the following described tracts of land in Divide County, North Dakota:

ZONE I (1280H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 103 WEST, 5TH PM  
ALL OF SECTIONS 25 AND 36,

TOWNSHIP 161 NORTH, RANGE 102 WEST, 5TH PM  
ALL OF SECTIONS 2, 5, 6, 7, 8, 11, 13, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25, 28, 29, 30, 31, 32, 33 AND 36.

ZONE II (8/1280H-STANDUP)

TOWNSHIP 161 NORTH, RANGE 102 WEST, 5TH PM

ALL OF SECTIONS 1, 3, 4, 9, 10, 12, 14, 23, 26, 27, 34 AND 35.

(90) The Daneville-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.

(91) The temporary spacing for the development of Zone I in the Daneville-Bakken Pool is hereby set at one horizontal well per standup 1280-acre spacing unit.

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

(93) Sections 25 and 36, Township 161 North, Range 103 West; Sections 2 and 11; Sections 5 and 8; Sections 6 and 7; Sections 13 and 24; Sections 15 and 22; Sections 16 and 21; Sections 17 and 20; Sections 18 and 19; Sections 25 and 36; Sections 28 and 33; Sections 29 and 32; and Sections 30 and 31, Township 161 North, Range 102 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone I in the Daneville-Bakken Pool.

(94) Spacing units hereafter created in Zone I in the Daneville-Bakken Pool shall be standup spacing units consisting of two adjacent governmental sections.

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

(96) The temporary spacing for the development of Zone II in the Daneville-Bakken Pool is hereby set at up to eight horizontal wells per standup 1280-acre spacing unit.

(97) All portions of the well bore not isolated by cement of any horizontal well in Zone II in the Daneville-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.

(98) Sections 1 and 12; Sections 3 and 10; Sections 4 and 9; Sections 14 and 23; Sections 26 and 35; and Sections 27 and 34, Township 161 North, Range 102 West, Divide County, North Dakota, are hereby designated standup 1280-acre spacing units in Zone II in the Daneville-Bakken Pool.

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

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

(101) The operator of any horizontally drilled well in the Daneville-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.

(102) 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 Daneville-Bakken Pool.

(103) 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 Daneville-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 Daneville-Bakken Pool as the Commission deems appropriate.

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

(105) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Daneville-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.

(106) 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 Daneville-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 6075 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.

(107) 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.

(108) For the purposes of division of production to owners of interests in spacing units established by this order, and proven productive prior to the date hereof, this order shall be retroactive to the date of first production.

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

(110) After August 30, 2013, all wells in the Daneville-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.

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

(112) This portion of this order shall cover all of the Daneville-Bakken Pool, common source of supply of crude oil and/or natural gas as herein defined, and continues in full force and effect until the 30th day of June, 2016. If the Daneville-Bakken Pool is still producing, the proper spacing for the pool will be considered by the Commission on or before its regularly scheduled hearing date in May, 2016. If, however, the Daneville-Bakken Pool is no longer producing when the proper spacing is to be considered, the Commission, at its own discretion, may refrain from scheduling a proper spacing hearing and may, without further notice, enter an order dismissing the proper spacing matter.

Dated this 14th day of June, 2013.

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA

By the Director, on behalf of the Commission

/s/ Lynn D. Helms, Director