BEFORE THE INDUSTRIAL COMMISSION

OF THE STATE OF NORTH DAKOTA

CASE NO. 22455
ORDER NO. 24789

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE PROPER SPACING FOR THE DEVELOPMENT OF THE SHORT CREEK-BAKKEN POOL, BURKE COUNTY, ND, REDEFINE THE FIELD LIMITS, AND ENACT SUCH SPECIAL FIELD RULES AS MAY BE NECESSARY.

ORDER OF THE COMMISSION

THE COMMISSION FINDS:

(1) This cause came on for hearing at 9:00 a.m. on the 25th day of June, 2014.

(2) The land and engineering witnesses for Hess Bakken Investments II, LLC (Hess) 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 June 27, 2014; therefore, such testimony may be considered evidence.

(3) Order No. 15823 entered in Case No. 13547 established temporary spacing for the development of the Short Creek-Bakken Pool at one horizontal well per 1280 acres.

(4) Hess requested the temporary spacing rules be made proper.

(5) Hess has no plans for further development in this area at this time.

(6) Case No. 19401 heard on the June 16, 2013 docket, is a motion of the Commission to consider temporary spacing to develop an oil and/or gas pool discovered by the Hess Corporation #0508H-1 AV-H Osborn-163-93 well (File No. 22147), located in Lot 2, Section 5, Township 163 North, Range 93 West, Burke County, North Dakota, define the field limits, and enact such special field rules as may be necessary. Order No. 21703 entered in Case No. 19401 established Sections 3 and 10; Sections 4 and 9; and Sections 5 and 8, Township 163 North, Range 93 West, Burke County, North Dakota, as standup 1280-acre spacing units with one horizontal well allowed in the Short Creek-Bakken Pool.

(7) Geological and engineering evidence and testimony presented to the Commission relative to the matter of well spacing indicates the Short Creek-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 pool, 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.

(8) There were no objections in this matter.

(9) Certain special field rules for the Short Creek-Bakken Pool are necessary to prevent waste and protect against the contamination and pollution of surface lands and fresh waters.

IT IS THEREFORE ORDERED:

(1) Provisions established herein for the Short Creek-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 (2) below shall not be subject to this order.

(2) The Short Creek Field is hereby redefined as the following described tracts of land in Burke County, North Dakota:

TOWNSHIP 163 NORTH, RANGE 93 WEST, 5TH PM
ALL OF SECTIONS 1, 2, 3, 4, 5, 8, 9, 10, 11 AND 12.

(3) The Short Creek-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.

(4) The proper spacing for the development of the Short Creek-Bakken Pool is hereby set at one horizontal well per standup 1280-acre spacing unit.

(5) All portions of the well bore not isolated by cement of any horizontal well in the Short Creek-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.

(6) 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 93 West, Burke County, North Dakota, are hereby designated standup 1280-acre spacing units in the Short Creek-Bakken Pool.

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

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

(9) The operator of any horizontally drilled well in the Short Creek-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.

(10) 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 Short Creek-Bakken Pool.

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

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

(13) The following rules concerning the casing, tubing and equipping of wells shall apply to the subsequent drilling and operation of wells in the Short Creek-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 1000 pounds per square inch. If, at the end of 30 minutes this pressure has dropped 100 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.

(14) 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 Short Creek-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 5200 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 therefor 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.

(15) 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.

(16) The first horizontal well completed in each Short Creek-Bakken Pool non-overlapping spacing unit shall be allowed to produce at a maximum efficient rate.

(17) All wells completed in the Short Creek-Bakken Pool that have received an exemption to North Dakota Century Code Section 38-08-06.4 shall be allowed to produce at a maximum efficient rate.

(18) All infill horizontal wells, including overlapping spacing units, completed in the Short Creek-Bakken Pool, shall be allowed to produce at a maximum efficient rate for a period of 90 days commencing on the first day oil is produced through well-head equipment into tanks from the ultimate producing interval after casing has been run; after that, such wells shall be allowed to continue to produce at a maximum efficient rate if the well or operator meets or exceeds the Commission approved gas capture goals. The gas capture percentage shall be calculated by summing monthly gas sold plus monthly gas used on lease plus monthly gas processed in a Commission approved beneficial manner, divided by the total monthly volume of associated gas produced by the operator. The operator is allowed to remove the initial 14 days of flowback gas in the total monthly volume calculation. The Commission will accept compliance with the gas capture goals by well, field, county, or statewide by operator. If such gas capture percentage is not attained at maximum efficient rate, the well(s) shall be restricted to 200 barrels of oil per day if at least 60% of the monthly volume of associated gas produced from the well is captured, otherwise oil production from such wells shall not exceed 100 barrels of oil per day.

The Commission will recognize the following as surplus gas being utilized in a beneficial manner:

a. Equipped with an electrical generator that consumes surplus gas from the well;

b. Equipped with a system that intakes the surplus gas and natural gas liquids volume from the well for beneficial consumption by means of compression to liquid for use as fuel, transport to a processing facility, production of petrochemicals or fertilizer, conversion to liquid fuels, separating and collecting the propane and heavier hydrocarbons; and

c. Equipped with other value-added processes as approved by the Director which reduce the volume or intensity of the flare by more than 60%.

On July 1, 2014, the Commission approved gas capture goals of 74% by October 1, 2014; 77% by January 1, 2015; 85% by January 1, 2016; and 90% by October 1, 2020. The Commission may revise such goals in the future if deemed necessary.

(19) If the flaring of gas produced with crude oil from the Short Creek-Bakken Pool is determined by the North Dakota Department of Health as causing a violation of the North Dakota Air Pollution Control Rules (NDAC Article 33-15), production from the pool may be further restricted.

(20) This order shall cover all of the Short Creek-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 3rd day of February, 2015.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

By the Director, on behalf of the Commission

/s/ Lynn D. Helms, Director