

BEFORE THE INDUSTRIAL COMMISSION
OF THE STATE OF NORTH DAKOTA

CASE NO. 5712
ORDER NO. 6607

IN THE MATTER OF A HEARING CALLED ON A
MOTION OF THE COMMISSION TO CONSIDER THE
TEMPORARY SPACING FOR THE DEVELOPMENT
OF AN OIL AND/OR GAS POOL DISCOVERED BY
THE CONOCO INC. #74 DICKINSON STATE WELL,
LOCATED IN THE SW NW OF SECTION 32,
T.140N., R.96W., STARK COUNTY, NORTH
DAKOTA, DEFINE THE LIMITS OF THE FIELD, AND
ENACT SUCH SPECIAL FIELD RULES AS MAY BE
NECESSARY.

TEMPORARY ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:00 a.m. on the 24th day of March, 1993, in Bismarck, North Dakota, before an examiner appointed by the Industrial Commission of North Dakota, hereinafter referred to as the "Commission."

NOW, on this 8th day of April, 1993, the Commission a quorum being present, having considered the testimony adduced and the exhibits received at said hearing, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That geological and engineering evidence presented to the Commission relative to the matter of well spacing indicates that the Dickinson-Lodgepole Pool, as classified and defined in this order, should be developed on a pattern of one well to 320 acres in order to drain efficiently the recoverable oil from said pool, assure rapid development, avoid the drilling of unnecessary wells, and prevent waste in a manner that will protect correlative rights.

(3) That temporary 320-acre spacing in the Dickinson-Lodgepole Pool in this field will result in the efficient and economical development of the field as a whole and will operate so as to prevent waste and provide maximum ultimate recovery, will avoid the drilling of unnecessary wells, and will protect correlative rights.

(4) That the W/2 and SE/4 of Section 4, Township 139 North, Range 97 West is within the boundary of the Heart River Field and wells in the field produce from the Heath Pool. A dry hole in the W/2 of said Section 4 indicates that the Heart River-Heath Pool is not productive in the section. Removing said tracts from the field will not cause waste nor violate correlative rights.

(5) That the unrestricted flaring of gas produced from the Dickinson-Lodgepole Pool could be considered waste, and in order to minimize such, production from the pool should be restricted until the wells producing therefrom are connected to a gas gathering and processing facility.

(6) That the Dickinson State #74 produces from a different common source of supply than that from which the Wm. Kalanek #1 well produced.

(7) That Order No. 609, dated February 5, 1963, established 160-acre spacing for the Dickinson Madison and Heath Pools and continued in force and effect until further order of the Commission. With respects to the Heath Pool, Order No. 920 superseded Order No. 609.

The only well in the Dickinson Field to ever produce from the Madison Pool was the Leach Oil Corp. #1 Wm. Kalanek well which was plugged July 30, 1961. Order No. 609 erred by setting spacing for a pool which was not in production at the time the order was entered. Therefore, the order should be rescinded.

(8) That certain special field rules are necessary to prevent waste and protect against the contamination and pollution of surface lands and fresh waters.

IT IS THEREFORE ORDERED:

(1) That the Dickinson Field is hereby redefined as the following described tracts of land in Stark County, North Dakota:

TOWNSHIP 139 NORTH, RANGE 96 WEST, 5TH PM
ALL OF SECTION 5 AND 6,

TOWNSHIP 139 NORTH, RANGE 97 WEST, 5TH PM
ALL OF SECTIONS 1, 2, 3 AND 4,

TOWNSHIP 140 NORTH, RANGE 96 WEST, 5TH PM
ALL OF SECTIONS 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21,
22, 23, 27, 28, 29, 30, 31, 32, 33,

TOWNSHIP 140 NORTH, RANGE 97 WEST, 5TH PM
ALL OF SECTIONS 13, 22, 23, 24, 25, 26, 27, 33, 34, 35 AND 36,

together with those additional quarter sections or governmental lots corresponding thereto as may be proven productive by wells drilled on lands within one mile of the boundaries of the field as set forth above, provided further that such extensions of the field boundaries shall include only sufficient acreage to form a spacing unit for such wells, and any intervening lands.

(2) That the Heart River Field is hereby redefined as the following described tracts of land in Stark County, North Dakota:

TOWNSHIP 139 NORTH, RANGE 97 WEST, 5TH PM
ALL OF SECTIONS 5, 7 AND 8.

(3) That the Dickinson-Lodgepole Pool be, and the same is hereby defined as that accumulation of oil and gas found in the interval from below the base of the Mission Canyon Formation to above the top of the Bakken Formation within the limits of the field as set forth above.

(4) That effective this date, the temporary spacing for the development of the Dickinson-Lodgepole Pool be, and the same is hereby set at one well to 320 acres.

(5) That all wells hereafter drilled to said pool shall be located not less than 660 feet from a spacing unit boundary nor closer than 1980 feet to a well permitted to or producing from the pool. Wells presently permitted to or producing from the pool that do not conform to this spacing pattern shall be considered exceptions.

(6) That spacing units in the Lodgepole Pool in the Dickinson Field shall consist of two adjacent quarter sections, or governmental lots corresponding thereto within the same section. The configuration of spacing units, either vertical or horizontal, shall be determined by the location of the first well in the section, such that the aforesaid well will be nearest

to the center of the spacing unit. Spacing units for wells being equi-distant from the mid-section lines shall be designated by the operator; however, the Commission shall have continuing jurisdiction, and in the event that spacing units hereafter formed by this policy do not coincide with the geological and physical nature of the reservoir, the Commission may alter specific spacing units upon application by any interested party, after due notice and hearing. However, spacing units in Section 32, Township 140 North, Range 96 West, shall consist of the E/2 and W/2 of the section.

(7) That no well shall be drilled hereafter in the Dickinson-Lodgepole Pool except in conformity with the regulations above without special order of the Commission after due notice and hearing.

(8) That the following rules concerning the casing, tubing and equipping of the wells shall apply to the subsequent drilling and operation of wells in the Dickinson-Lodgepole 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;
- (b) The producing or oil string shall consist of new or reconditioned pipe that has been previously tested to 2000 pounds per square inch. Casing shall be set and cemented at a point not higher than the top of the producing formation, or at a point approved by the Director. Sufficient cement shall be used and applied in such manner as to adequately protect and isolate all formations containing oil and/or gas, protect the pipe through salt sections encountered, and to isolate the Dakota-Lakota Series. The cement shall be allowed to stand a minimum of 24 hours before drilling the plug or initiating tests. After cementing, the casing shall be tested by application of pump pressure of at least 2000 pounds per square inch. If, at the end of 30 minutes this pressure shall have dropped 150 pounds per square inch or more, the casing shall be repaired. Thereafter, the casing shall again be tested in the same manner. Further work shall not proceed until a satisfactory test has been obtained;
- (c) All well-head fittings and connections shall have a working pressure in excess of that to which they are expected to be subjected; and,
- (d) All wells shall be equipped with tubing; 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.

(9) That the gas-oil ratio of each well shall be measured during the months of May and November, and the reservoir pressure of flowing wells shall be measured in the months of May and November, and in pumping wells when the rods are pulled but at least once annually and reported to the Commission within 15 days following the end of the month in which they are determined. Pressure measurements shall be made at or adjusted to a subsea datum of 7270 feet after the well has been shut in for 48 hours. All gas-oil ratios and reservoir pressure determinations shall be made under the supervision of and by methods approved by the Director. The Director is authorized to waive these requirements if the necessity therefor can be demonstrated to his satisfaction.

(10) That no salt water shall be stored in pits in this field, except in an emergency, and approved by the Director.

(11) That in accordance with Commission Order No. 2099, the Dakota-Lakota Series in and under the Dickinson Field, is hereby designated a disposal reservoir, and the Director is authorized to approve requests to utilize wells in the field, as herein defined, for salt water disposal purposes.

(12) That multiple completion of wells for the purpose of producing oil and/or gas from the various pools encountered in the Dickinson Field, is hereby authorized, subject to the following requirements:

- (a) Administrative approval may be given by the Director upon the filing of an application in which the applicant states that the requirements described in (b) through (e) below and other applicable rules and orders of the Commission will be complied with;
- (b) An approved production packer shall be set between each of the producing horizons in a manner which will effectively isolate each during the production process;
- (c) Production from each producing horizon shall be through separate continuous strings of tubing installed in such a manner with respect to the production packers as will prevent commingling of production in the well bore;
- (d) An approved well-head of a type which allows independent suspension and packing of the tubing shall be used; and,
- (e) 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.

(13) That 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.

(14) That the Dickinson State #74 well is hereby permitted to produce at an average rate of 600 barrels of oil per day and flare all surplus gas produced therewith until June 1, 1993. If flaring continues after June 1, 1993, oil production from the well shall not exceed an average of 100 barrels per day until the well is connected to a gas pipeline and processing plant. When the well is connected to a gas pipeline, it shall be allowed to produce at a maximum efficient rate.

That all wells hereafter completed in the Dickinson-Lodgepole Pool shall be allowed to produce at an unrestricted 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.

(15) That Order No. 609 is hereby rescinded.

(16) That if the flaring of gas produced with crude oil from the Dickinson-Lodgepole Pool causes, or threatens to cause, degradation of ambient air quality, production from the pool shall be further restricted.

(17) That this order shall be effective the date of first operations of the Dickinson State #74 well and shall cover all of the Dickinson-Lodgepole Pool, common source of supply of crude oil and/or natural gas as herein defined, and shall continue in full force and effect until the 1st day of September, 1994. That the proper spacing for the pool will be considered by the Commission on or before the regularly scheduled meeting in August, 1994.

Dated this 8th day of April, 1993.

INDUSTRIAL COMMISSION
STATE OF NORTH DAKOTA

/s/ Edward T. Schafer
Edward T. Schafer, Governor

/s/ Heidi Heitkamp
Heidi Heitkamp, Attorney General

/s/ Sarah Vogel
Sarah Vogel, Commissioner of Agriculture