

BEFORE THE INDUSTRIAL COMMISSION  
OF THE STATE OF NORTH DAKOTA

CASE NO. 4279  
ORDER NO. 4887

IN THE MATTER OF A HEARING CALLED ON A  
MOTION OF THE COMMISSION TO CONSIDER THE  
APPLICATION OF CONOCO, INC. FOR AN ORDER  
EXTENDING THE FIELD BOUNDARIES OF THE  
DICKINSON-HEATH FIELD, LOCATED IN STARK  
COUNTY, NORTH DAKOTA, ESTABLISHING A ZONE  
OF 160-ACRE SPACING WITHIN SAID FIELD, AND  
ENACTING SUCH SPECIAL FIELD RULES AS MAY BE  
NECESSARY.

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:00 a.m. on the 20th day of May, 1987, in Bismarck, North Dakota, before an examiner appointed by the Industrial Commission of North Dakota, hereinafter referred to as the "Commission."

NOW, on this 12th day of June, 1987, 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 there is an accumulation of oil and gas in the Dickinson Field which is currently referred to by the Commission as the "Heath" Formation.

(3) That the Heath Formation does not exist in the Dickinson Field and the correct terminology for this producing formation is the "Tyler" Formation.

(4) That in an effort to more accurately describe the accumulation of oil and gas in the Dickinson Field, references to the Dickinson-Heath Pool should be changed to the Dickinson-Tyler Pool.

(5) That applicant is the owner of an interest in oil and gas leasehold estates in the following tracts of land in Stark County, North Dakota:

TOWNSHIP 140 NORTH, RANGE 96 WEST, 5TH PM  
ALL OF SECTION 18, THE S/2 OF SECTIONS 8 AND 9, AND THE NW/4  
OF SECTIONS 17 AND 19.

TOWNSHIP 140 NORTH, RANGE 97 WEST, 5TH PM  
ALL OF SECTION 13 AND THE N/2 OF SECTIONS 23 AND 24.

(6) That applicant is desirous of an order extending the boundaries of the Dickinson Field to include said lands.

(7) That said lands are within the buffer zone of the Dickinson-Heath Pool and spacing for such area is one well per 320 acres.

(8) That evidence presented to the Commission relative to the matter of well spacing indicates that the Dickinson-Heath Pool should be developed on a pattern of one well to 160 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.

(9) That 160-acre spacing in the Dickinson-Heath 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.

(10) That under the provisions of Commission Order No. 1382, no well may be located closer than 660 feet from the Dickinson Heath Sand Unit boundary.

(11) That no well in the Dickinson-Heath Pool should be allowed to be located closer than 660 feet from the boundary of the Dickinson Heath Sand Unit.

(12) That there were no objections to this application.

(13) That this application should be granted.

(14) 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  
THE N/2 OF SECTION 5 AND THE NE/4 OF SECTION 6.

TOWNSHIP 140 NORTH, RANGE 96 WEST, 5TH PM  
ALL OF SECTIONS 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 28, 29, 30, 31, 32 AND 33, THE S/2 OF SECTIONS 8 AND 9, THE SW/4 OF SECTION 13, AND THE W/2 OF SECTION 27.

TOWNSHIP 139 NORTH, RANGE 97 WEST, 5TH PM  
ALL OF SECTION 2, THE N/2 OF SECTION 1, THE N/2 AND SE/4 OF SECTION 3, AND THE NE/4 OF SECTION 4.

TOWNSHIP 140 NORTH, RANGE 97 WEST, 5TH PM  
ALL OF SECTIONS 13, 23, 24, 25, 26, 27, 33, 34, 35 AND 36, AND THE SE/4 OF SECTION 22.

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 Dickinson-Tyler Pool be, and the same is hereby defined as that accumulation of oil and gas found below the base of the Amsden Formation and above the top of the Otter Formation within the limits of the field as set forth above.

(3) That effective this date, the proper spacing for the development of the Dickinson-Tyler Pool be, and the same is hereby set at one well to 160 acres.

(4) That all wells hereafter drilled to said pool shall be located not less than 500 feet from a spacing unit boundary nor closer than 1650 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.

(5) That all wells hereafter drilled to said pool shall be located at least 660 feet from the Dickinson Heath Sand Unit boundary. 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 for the Dickinson-Tyler Pool shall consist of a governmental quarter section, or lots corresponding thereto, as determined by governmental survey.

(7) That no well shall be drilled hereafter in the Dickinson-Tyler 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 wells shall apply to the subsequent drilling and operation of wells in the Dickinson-Tyler 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. 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 Enforcement Officer 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 5300 feet after the well has been shut in for 48 hours. All gas-oil ratio and reservoir pressure determinations shall be made under the supervision of and by methods approved by the Enforcement Officer. The Enforcement Officer 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 Enforcement Officer.

(11) That this order shall cover all of the Dickinson-Tyler Pool common source of supply of crude oil and/or natural gas as herein defined, and shall continue in full force and effect until further order of the Commission or until the last well in the pool has been plugged and abandoned.

Dated this 12th day of June, 1987.

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA

/s/ George A. Sinner  
George A. Sinner, Governor

Nicholas J. Spaeth, Attorney General

/s/ Kent Jones  
Kent Jones, Commissioner of Agriculture