

BEFORE THE INDUSTRIAL COMMISSION  
OF THE STATE OF NORTH DAKOTA

CASE NO. 5933  
ORDER NO. 6861

IN THE MATTER OF A HEARING CALLED ON A MOTION OF THE COMMISSION TO CONSIDER THE PETITION OF CONOCO INC. FOR AN ORDER PROVIDING FOR THE UNITIZED MANAGEMENT, OPERATION, AND FURTHER DEVELOPMENT OF THE DICKINSON-LODGEPOLE UNIT AREA, CONSISTING OF LANDS WITHIN THE DICKINSON FIELD IN STARK COUNTY, NORTH DAKOTA; FOR APPROVAL OF THE UNIT AGREEMENT AND UNIT OPERATING AGREEMENT CONSTITUTING THE PLAN OF UNITIZATION FOR THE DICKINSON-LODGEPOLE UNIT AREA; FOR APPROVAL OF THE PLAN OF OPERATION; VACATING THE APPLICABLE SPACING ORDERS; AND FOR SUCH FURTHER AND ADDITIONAL RELIEF AS THE COMMISSION DEEMS APPROPRIATE.

ORDER OF THE COMMISSION

BY THE COMMISSION:

Pursuant to legal notice this cause came on for hearing at 9:00 a.m. on the 8th day of June, 1994, in Bismarck, North Dakota, before an examiner appointed by the Industrial Commission of North Dakota, hereinafter referred to as the "Commission."

NOW, on this 16th day of June, 1994, 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 an application was filed with the Commission by Conoco, Inc., for an order approving the unitized management, operation and further development of a portion of the Dickinson-Lodgepole source of supply of oil and gas located in Stark County, North Dakota, and for an order approving a plan of operation providing for the injection of water and/or other substances into the common source of supply; as a part of said application and attached to it was a plan of unitization consisting of a Unit Agreement and Unit Operating Agreement; such application was filed in accordance with Sections 38-08-09.1 through 38-08-09.16 of the North Dakota Century Code ("NDCC").

(2) That the notice of filing of the application and petition and the time and place of hearing thereof was regularly given in all respects as by law required, and that more than 45 days prior to the hearing, Conoco, Inc., as the applicant, did give notice of the time and place of said hearing and did mail, postage prepaid, a copy of the application and the proposed plan of unitization to each affected person owning an interest of record in the unit outline at such person's last known post office address, and that the applicant did, more than 45 days prior to the hearing file with the Commission engineering, geological and other technical exhibits to be used and which were used at said hearing, and that the notice so given did specify that such material was filed with the Commission; that due public notice having been given, as required by law, the Commission has jurisdiction of this cause and the subject matter.

(3) That the plan of unitization proposed by the applicant consists of a Unit Agreement for the development and operation of the Dickinson-Lodgepole Unit in the county of Stark, state of North Dakota, together with a Unit Operating Agreement.

(4) That the unitized management, operation and further development of a common source of supply of oil and gas or portion thereof is reasonably necessary in order to effectively carry on a water injection and pressure maintenance project calculated to substantially increase the ultimate recovery of oil and gas from the common source of supply.

(5) That one or more unitized methods of operation as applied to such common source of supply or portion thereof are feasible, will prevent waste and will with reasonable probability result in the increased recovery of substantially more oil and gas from the common source of supply than would otherwise be recovered.

(6) That the estimated additional cost, if any, of conducting such operations will not exceed the value of the additional oil and gas so recovered.

(7) That such unitization and the adoption of one or more unitized methods of operation is for the common good and will result in the general advantage of the owners of the oil and gas rights within the common source of supply of portions thereof directly affected.

(8) That the unitization and unitized operation of the common source of supply described herein, upon the terms and conditions set forth in the Unit Agreement and Unit Operating Agreement, is fair, reasonable, equitable. Furthermore, the terms and conditions are necessary or proper to protect, safeguard, and adjust the respective rights and obligations of the persons affected including royalty owners, owners of overriding royalties, oil and gas payments, carried interests, mortgagees, lien claimants, and others, as well as the lessees.

(9) That the area proposed to be included within the unit area of the Dickinson-Lodgepole Unit is as follows:

TOWNSHIP 140 NORTH, RANGE 96 WEST, 5TH PM

ALL OF SECTION 31, THE S/2 S/2 SW/4 OF SECTION 29, THE SE/4 SE/4 SE/4 OF SECTION 30, THE W/2, THE W/2 W/2 SE/4, THE W/2 SW/4 NE/4 AND THE SW/4 NW/4 NE/4 OF SECTION 32,

TOWNSHIP 139 NORTH, RANGE 96 WEST, 5TH PM

THE N/2 OF SECTION 5 AND THE N/2 AND SE/4 OF LOT 1, THE N/2 OF LOT 2 AND THE NE/4 OF LOT 3 OF SECTION 6.

ALL IN STARK COUNTY AND COMPRISING 1436.45 ACRES; MORE OR LESS.

(10) That the unit area as described in paragraph (9) hereof and in the application and plan of unitization constitutes a common source of supply, and the evidence established that the area to be so included within the unit area is of such size and shape as may be reasonably required for the successful and efficient conduct of the unitized method or method of operation for which the unit is created, and that the conduct thereof will have no adverse effect upon the remainder of such common source of supply. Provided, however, that injection wells and new wells drilled in the unit area for production or injection purposes should be located an adequate distance from the unit boundary in order to fully protect correlative rights.

(11) That all working interest owners agree, that to increase the ultimate recovery of oil and gas from the pool and to prevent waste, the Dickinson-Lodgepole Pool should be unitized.

(12) That Placid Oil Company ("Placid") and Andrea Singer Pollack

Revocable Trust ("ASPRT") each have an interest in the proposed Dickinson-Lodgepole Unit, Stark County, North Dakota.

(13) That both Placid and ASPRT object to Conoco's definition of the boundaries of the Lodgepole Pool reservoir. That definition is depicted on Conoco's net pay isopach map, Conoco Exhibit 13.

(14) That Placid and ASPRT each used identical seismic information, along with well data, to construct their own net pay isopach maps, ASPRT Exhibit 7 and Placid Exhibit 9. The reservoir boundary on each map, however, was based only upon seismic information.

(15) That Placid's net pay isopach map does not feature a "saddle", or a structural low, within the mound as depicted by Conoco and ASPRT, although evidence within Placid's own exhibits (e.g. Placid Exhibit 7) indicates that said saddle exists.

(16) That Placid and ASPRT believe that seismic information can be used to identify the reservoir boundaries, although no evidence was introduced into the record to support identification of the productive portion of the mound using seismic information.

(17) That testimony by Conoco indicates that seismic information is a highly interpretive exploration tool with which general structure of a feature can be estimated, but from which reservoir quality and the fluids it contains cannot be detected. Therefore, the productive portion of the Lodgepole mound cannot be determined by seismic information.

(18) That the Fryburg Interval has regional dip to the north across the Dickinson Field and evidence presented to the Commission indicates that the Fryburg interval will be deposited abnormally high, in comparison to said regional dip, because a mound has grown beneath it.

(19) That the structure of the Fryburg Interval can be a useful method to assist in determining the boundaries of the Lodgepole Pool reservoir.

(20) That the Filipi No. 76 well located in the SW NE of Section 32, Township 140 North, Range 96 West, Stark County, North Dakota, penetrated the Fryburg Interval abnormally high, although the mound was not developed under said well, suggesting that the mound edge is nearby.

(21) That Placid and ASPRT agree with Conoco's material balance calculation with which Conoco calculated an original oil in place of 18,250,000 barrels of oil in the Dickinson-Lodgepole reservoir.

(22) That Conoco's volumetric calculation of original oil in place is approximately 6% above the material balance calculation. ASPRT's volumetric calculation of original oil in place is approximately 12% below the calculated material balance calculation. Conoco's volumetric calculation of original oil in place is more in agreement with the material balance calculation. Therefore, the location of the eastern boundary of the reservoir is as asserted by Conoco.

(23) That Conoco's net pay isopach map is the most credible map presented.

(24) That the plan of unitization filed with the application and included in the record as Exhibits 5 and 6, contains fair, reasonable, and equitable provisions for:

- (a) The efficient, unitized management and control of the further development and operation of the unit area for the recovery of oil and gas from the common source of supply affected.
- (b) The division of interest or formula for the apportionment and allocation of the unit product among the tracts within the unit area is fair, equitable and reasonable.

- (c) The manner in which the unit and the further development and operation of the unit area shall or may be financed and the basis, terms and conditions upon which cost and expense thereof shall be apportioned among and assessed against the tracts and interest made chargeable therewith, including a detailed accounting procedure governing all charges and credits incident to such operation, and makes reasonable provision for carrying or otherwise financing lessees who are unable to promptly meet their financial obligations in connection with the unit.
  - (d) The procedure and basis upon which wells, equipment, and other properties of the several lessees within the unit area are to be taken over and used for unit operations, including the method of arriving at the compensation therefor, or of otherwise proportionately equalizing or adjusting the investment of the several lessees in the project as of the effective date of unit operation.
  - (e) The creation of an operating committee to have general overall management and control of the unit and the conduct of its business and affairs and the operations carried on by it, together with the creation or designation of such other subcommittees, boards or offices to function under authority of the operating committee as may be necessary, proper or convenient in the efficient management of the unit, defining the powers and duties of all such committees, boards or officers, and prescribing their tenure and time and method for their selection.
  - (f) The time when the plan of unitization shall become and be effective.
  - (g) The time when and conditions under which and the method by which the unit shall be or may be dissolved and its affairs wound up.
- (25) That the plan of unitization has been signed, ratified or approved by lessees and royalty owners owning in excess of the 70% required percentage interest in and to the unit area, as provided by NDCC Section 38-08-09.5.
- (26) That such Unit Agreement and the Unit Operating Agreement are in the public interest, are protective of correlative rights and are reasonably necessary to increase ultimate recovery and to prevent waste of oil and gas, and that said plan of unitization, as contained therein, appears to conform and comply with the provisions and requirements of NDCC Sections 38-08-09.1 through 38-08-09.13.
- (27) That in order to effectuate the purposes of unitization, NDCC Section 38-08-09.2, provides that the Commission is vested with continuing jurisdiction necessary or proper to enforce the provisions of this order.
- (28) That in this cause there are certain rules which are necessary and appropriate to the efficient operation of the Dickinson-Lodgepole Unit, in order to promote and expedite the objective for which the unit was formed.
- (29) That the rules and orders hereby promulgated for the Dickinson-Lodgepole Unit, pertaining to the injection of water and/or other substances into the reservoir, to reservoir pressure surveys, to gas-oil ratio surveys and to production tests are necessary, desirable, in the public interest, preventative of waste and protective of correlative rights.
- (30) That the common source of supply which will be affected by the project has been adequately delineated.

(31) That NDCC Section 38-08-04 and Section 43-02-03-15 of the North Dakota Administrative Code ("NDAC") require each party desiring to drill or operate oil and gas wells in the state to file with the Commission a reasonable bond with good and sufficient surety, conditioned on full compliance with statutes rules and orders of the Commission.

(32) That on behalf of the Dickinson-Lodgepole Unit, the unit operator as a separate and distinct operator, should furnish a bond as provided in NDCC Section 38-08-04 and NDAC Section 43-02-03-15.

IT IS THEREFORE ORDERED:

(1) That the application filed herein be, and the same is hereby approved.

(2) That the creation of the Dickinson-Lodgepole Unit in Stark County, North Dakota, as prayed for in said application be, and is hereby authorized and approved.

(3) That the unit area of said unit shall extend to and include the land hereinbefore described in paragraph (9) of the Findings.

(4) That the plan of unitization consisting of the Unit Agreement and the Unit Operating Agreement, included in the record (as Exhibits 5 and 6) is hereby incorporated in this order by reference, and shall apply to the same extent and with the same force and effect as if actually set forth herein; that the said plan of unitization of and for said Dickinson-Lodgepole Unit is approved, all to the same extent and with the same force and effect as if set forth herein in its entirety; that if said plan of unitization does not in all respects conform to and comply with the provisions and requirements of NDCC Sections 38-08-09.1 through 38-08-09.13, the statute shall prevail.

(5) That the unitized formation shall mean the Lodgepole Formation as identified by Industrial Commission Order No. 6607, being 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.

(6) That the injection of water and/or other substances into the unitized formation underlying the Dickinson-Lodgepole Unit by the unit operator for the purpose of operating an enhanced recovery project is authorized; provided, however, that prior to the commencement of such injection the operator shall obtain such permits as are required by NDAC Chapter 43-02-05.

(7) That the unit operator of the Dickinson-Lodgepole Unit may, from time to time, use certain existing wells, or wells to be drilled, for the purpose of injecting water and/or other substances into the unitized formation underlying the Dickinson-Lodgepole Unit upon approval by the Commission. The application for such approval shall be in accordance with statutes and rules of the Commission.

(8) That the unit operator shall be permitted to drill additional wells at any location within the unit area, no closer than 660 feet to the boundary of the unit, nor closer than 1980 feet to another well producing or permitted to the same pool outside the unit area.

(9) That all bottom-hole pressures and gas-oil ratios obtained by the unit operator shall be filed with the Commission. Additional bottom-hole pressure and gas-oil ratio measurements may be required by the Director, if deemed necessary.

(10) That a report of unit operations shall be filed annually with the Commission. Such report shall include but not be limited to production and injection amounts as well as recorded pressures and gas-oil ratios. Proposed plans for the unit for the coming year shall also be included in the report.

(11) That the termination of the Dickinson-Lodgepole Unit shall be as prescribed in the Unit Agreement, or as provided by NDCC Section 38-08-09.4; and that notwithstanding any provisions to the contrary, in the event the unit operator fails to commence or ceases enhanced recovery operations, the Commission upon its own motion, after notice and hearing, may consider rescinding this order so that the Dickinson-Lodgepole Unit will terminate and cease to exist.

(12) That the effective date of the Dickinson-Lodgepole Unit shall be the first day of the month following the month in which the plan of unitization has been signed, ratified, or approved by lessees and royalty owners owning the required percentage of interest in the unit area, and has been so certified by the Commission.

(13) That the provisions of this order shall supersede and replace the provisions of all previous rules and orders not consistent herewith, including without limitations all otherwise applicable spacing orders and well location rules.

(14) That the unit operator, on behalf of the Dickinson-Lodgepole Unit, shall cause to be transferred to a separate blanket bond, all wells in the unit area used in unit operations. The bond shall be in the applicable dollar amount as provided in NDAC Section 43-02-03-15.

(15) That this order shall remain in full force and effect until further order of the Commission.

Dated this 16th day of June, 1994.

INDUSTRIAL COMMISSION  
STATE OF NORTH DAKOTA

/s/ Edward T. Schafer, Governor

/s/ Heidi Heitkamp, Attorney General

/s/ Sarah Vogel, Commissioner of Agriculture