

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF THE STATE OF NEW
MEXICO FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 1102
Order No. R-892

THE APPLICATION OF SINCLAIR OIL AND
GAS COMPANY FOR AN ORDER AMENDING
ORDER NO. R-757 AND CREATING THE
DEAN PERMO-PENNSYLVANIAN POOL, FOR
AN ORDER ESTABLISHING 80-ACRE SPACING
UNITS IN SAID DEAN PERMO-PENNSYLVANIAN
POOL, AND FOR AN ORDER AMENDING ORDER
NO. R-799 AND PERMITTING THE DUAL
COMPLETION OF WELLS IN THE DEAN-
DEVONIAN AND DEAN PERMO-PENNSYLVANIAN
POOLS, ALL IN LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9:00 o'clock a.m. on July 18, 1956, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission."

NOW, on this 4th. day of October, 1956, the Commission, a quorum being present, having considered the record herein and the evidence and testimony adduced and being fully advised in the premises,

FINDS:

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

(B) That the Commission on September 15, 1955, heard Case No. 958, which was in the matter of the application of Sinclair Oil and Gas Company for an order creating and defining the Dean-Devonian Pool in Lea County, New Mexico, and establishing a uniform 40-acre spacing pattern for said Dean-Devonian Pool; further that the Commission on October 13, 1955, entered Order No. R-707, in which it found:

- (1) That due notice having been given as required by law, the Commission has jurisdiction of Case No. 958 and the subject matter thereof.
- (2) That a common source of supply in the Devonian formation was discovered by the Sinclair Oil and Gas Company's J. P. Dean Well No. 1, located 660 feet from the south line and 1980 feet from the west line of Section 35, Township 15 South, Range 36 East, Lea County, New Mexico.

- (3) That the said common source of supply should be denominated the Dean-Devonian Pool and should be classified, defined, and described as follows:

TOWNSHIP 15 SOUTH, RANGE 36 EAST, NMPM

All of Sections 26 and 35

E/2 NE/4 and the SE/4 of Section 34

TOWNSHIP 16 SOUTH, RANGE 37 EAST, NMPM

Lots 1, 2, 3, 4, 5, 6, 7, and 8 of Section 5

Lots 1, 2, 7, and 8 of Section 6

- (4) That geological and engineering data presented to the Commission indicate that one well will drain 40 acres, and that the Dean-Devonian Pool should be developed on 40-acre proration units.
- (5) That all wells drilled in the Dean-Devonian Pool should be located near the center of each governmental quarter-quarter section, with a tolerance of 150 feet in any direction to avoid surface obstructions. That wells now drilled or presently drilling prior to issuance of this order that are not in conformance to this order, should be granted an exception to the spacing pattern.

(C) That the Commission on February 15, 1956, heard Case No. 1017, which was in the matter of the application of Sinclair Oil and Gas Company for an order creating the Dean-Pennsylvanian Pool consisting of all of Section 26, all of Section 35, the E/2 of the NE/4 and the SE/4 of Section 34, Township 15 South, Range 36 East, and Lots 1, 2, 3, 4, 5, 6, 7, and 8, of Section 5, Township 16 South, Range 37 East, NMPM, Lea County, New Mexico, and the establishment of special rules for said pool regarding the spacing and location of wells drilled therein; further that the Commission on March 14, 1956, entered Order No. R-757 in which it found:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of Case No. 1017 and the subject matter thereof.
- (2) That the original application for and the legal advertisement of Case No. 1017 called for the creation of the Dean-Pennsylvanian Pool in Lea County, New Mexico, and the establishment of pool rules regarding the spacing and location of wells in said pool. That applicant, by means of an amended application filed February 2, 1956, and a motion presented at the hearing of Case 1017, moved that that portion of the original application pertaining to said

pool rules be dismissed, and that only that portion of the application concerning the creation of the Dean-Pennsylvanian Pool be considered.

- (3) That there is need for the creation of a new pool in Lea County, New Mexico, for the production of oil from the Pennsylvanian formation, said pool to bear the designation Dean-Pennsylvanian Pool. Said Dean-Pennsylvanian Pool was discovered by Sinclair Oil and Gas Company, State 735 No. 1, located in the SW¹/₄ of the NE¹/₄ of Section 26, Township 15 South, Range 36 East, NMPM. It was completed December 4, 1955. The top of perforations is at 11,560'.
- (4) That evidence presented at said hearing indicates that the horizontal limits of said Dean-Pennsylvanian Pool should be somewhat different from the horizontal limits of the pool as set forth in applicant's application.

(D) That the Commission on February 15, 1956, heard Case No. 1016, which was in the matter of the application of Sinclair Oil and Gas Company for an order authorizing the dual completion of wells in the Devonian common source of supply and the Pennsylvanian common source of supply underlying the E¹/₂ NE¹/₄ and the SE¹/₄ of Section 34, all of Sections 26 and 35, Township 15 South, Range 36 East, and Lots 1 through 8 of Section 5, and Lots 1, 2, 7, and 8 of Section 6, Township 16 South, Range 37 East, NMPM, Lea County, New Mexico; further that the Commission on April 27, 1956, entered Order No. R-799, in which it found:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of Case No. 1016 and the subject matter thereof.
- (2) That although the defined limits of the Dean-Devonian common source of supply are the same as outlined in applicant's application, the defined limits of the Dean-Pennsylvanian common source of supply, as set forth in Commission Order No. R-757, are somewhat different than the defined limits of the Dean-Pennsylvanian common source of supply as outlined in applicant's application and consist of the following described area:

TOWNSHIP 15 SOUTH, RANGE 36 EAST, NMPM

SW/4 SW/4 Section 25

All Section 26

E/2 NE/4 and SE/4 Section 34

All Section 35

NW/4 Section 36

TOWNSHIP 16 SOUTH, RANGE 37 EAST, NMPM

Lots 1, 2, 3, 4, 5, 6, 7, and 8 of Section 5

Lot 1 of Section 6

- (3) That the recoverable reserves in the above-described Dean-Pennsylvanian Pool are such that a well drilled to the Pennsylvanian formation in this pool would probably not be a profitable venture.
- (4) That although some wells have been drilled to and are producing from the Dean-Pennsylvanian Pool, unless means is provided to produce the known reserves in said pool by some method other than drilling separate wells into said Pennsylvanian formation, waste will occur in that all of the known recoverable reserves probably will not be produced.
- (5) That the applicant, Sinclair Oil and Gas Company, has shown that to dually complete wells in the Dean-Devonian Pool and the Dean-Pennsylvanian Pool would probably be a profitable venture, by virtue of which most of the recoverable reserves in the Pennsylvanian formation could be produced and the waste thereby averted.
- (6) That the applicant has shown that a dual completion installation utilizing parallel strings of tubing, one string of tubing to each common source of supply, and a retainer-type production packer will provide adequate separation of the fluids from the two reservoirs within the casing. Applicant has further shown that this type of installation may be readily adapted to the artificial lifting of the fluids from either or both of the two reservoirs if and when that should become necessary.
- (7) That adequate separation of the reservoirs in the well bore outside the casing can be accomplished by setting the production casing string at the total depth of the well bore and by cementing it from total depth to a point at least 500 feet above the top of the Pennsylvanian formation.

- (8) That although there is present in any dual completion the inherent danger of communication between the zones involved, and that such communication would result in waste, the evidence submitted in support of applicant's proposal for special pool rules permitting authority for dual completions in the Dean-Pennsylvanian and the Dean-Devonian Pools indicates that there is reasonable assurance that in this particular case, any such communication can be averted, and if it should occur, that it can be detected and corrected. Further, that waste will occur in this particular case if provision is not made for the dual completion of wells in the subject pools.
- (9) That provisions should be made for the Secretary-Director of the Commission to have the authority to grant administrative approval for the dual completion in the Pennsylvanian and Devonian formations only of any well located within the horizontal limits of both of the subject pools or located within the horizontal limits of one of the pools and within one-half mile of the horizontal limits of the other pool as they may now or as they may hereafter be defined.
- (10) That special pool rules should be prescribed governing dual completions in the subject pools, also designating the mechanical manner of completion acceptable, type and manner of tests required, and such other rules as may be necessary to insure safe completion and operation of any wells so dually completed.

THE COMMISSION FINDS FURTHER:

- (1) That the applicant in Case No. 1102, Sinclair Oil and Gas Company, has shown that the reserves in the Wolfcamp formation underlying the area designated as the Dean-Pennsylvanian Pool are such that a well drilled to and completed in said Wolfcamp formation would probably not be a profitable venture.
- (2) That unless means is provided to produce the known reserves in said Wolfcamp formation by some method other than drilling separate wells into said Wolfcamp formation, waste will occur in that all of the known recoverable reserves probably will not be produced.

(3) That the dual completion of wells within the Dean-Pennsylvanian common source of supply and the Dean-Devonian common source of supply in the subject area has been permitted under certain conditions, but the triple completion of wells within the Wolfcamp formation, the Pennsylvanian formation, and the Devonian formation in this area would be impractical.

(4) That the applicant has shown that to combine the Wolfcamp formation and the Pennsylvanian formation underlying the area designated as the Dean-Pennsylvanian Pool into one pool and to re-designate said Dean-Pennsylvanian Pool as the Dean Permo-Pennsylvanian Pool would not cause but would prevent waste in that the reserves of both formations could be produced as a single Permo-Pennsylvanian completion or as the upper completion of a Permo-Pennsylvanian and Devonian dual completion. Further, that the reservoir characteristics of the Wolfcamp formation and the Pennsylvanian formation in the subject area are similar in nature and waste will not occur as a result of their combination.

(5) That applicant, Sinclair Oil and Gas Company, has further shown that there is reasonable assurance that any well completed in said Wolfcamp formation and/or Pennsylvanian formation in the subject area will adequately drain 80 acres, further that all wells drilled to and completed in the Wolfcamp formation and/or the Pennsylvanian formation in the area should be located on 80-acre units embracing two adjacent governmental quarter-quarter sections or lots within a single governmental section, which units should run either North and South or East and West; further, that wells drilled to and completed in the Wolfcamp formation and/or Pennsylvanian formation in said area should be located on either quarter-quarter section or lot comprising the 80-acre units, and should not be closer than 330 feet from the lines of such quarter-quarter section; further, that all wells so located on such 80-acre units should have allowables assigned thereto in accordance with the 80-acre proportional factor for a depth range of 11,000 to 12,000 feet, and with the other provisions of Rule 505 of the Rules and Regulations of the Commission.

(6) That any well which was drilled or was drilling as of October 4th, 1956, and which is located within the horizontal limits of the Dean Permo-Pennsylvanian Pool as herein defined should be granted an exception to the 80-acre spacing requirements of this order; further, that any such excepted well should be assigned an allowable which is in the same proportion to the standard 80-acre allowable that the well's dedicated acreage is to 80 acres; further, that the allowable for any such excepted well should be increased to that of a standard unit upon receipt by the Commission of proper evidence that such well has 80 acres dedicated thereto.

(7) That the application of Sinclair Oil and Gas Company for an order amending Order No. R-757 and creating the Dean Permo-Pennsylvanian Pool, for an order establishing 80-acre spacing units in said Dean Permo-Pennsylvanian Pool, and for an order amending Order No. R-799 and permitting the dual completion of wells in the Dean Permo-Pennsylvanian and the Dean-Devonian Pools should be approved. Further, that in the interests of clarity and simplicity, Order No. R-707, which order created and defined the Dean-Devonian Pool and established a uniform 40-acre spacing pattern for said Dean-Devonian Pool, Order No. R-757, which order

created and defined the Dean-Pennsylvanian Pool, and Order No. R-799, which order authorized, under certain conditions, the dual completion of wells in the Dean-Pennsylvanian Pool and Dean-Devonian Pool should be rescinded and superseded by one order, which order should set forth the vertical and horizontal limits of each of the common sources of supply involved and which should also set forth all special rules relative to the spacing and the dual completion of wells therein.

IT IS THEREFORE ORDERED:

(1) That the application of Sinclair Oil and Gas Company for an order amending Commission Orders No. R-757 and No. R-799 and for an order establishing 80-acre spacing in the Dean Permo-Pennsylvanian Pool be and the same is hereby approved.

(2) That Commission Orders No. R-707, No. R-757, and No. R-799 be and the same are hereby rescinded and superseded by Commission Order No. R-892.

(3) That the vertical limits of the Dean-Devonian Pool shall be the Devonian formation and the horizontal limits of said Dean-Devonian Pool shall be that area described in Exhibit "A" attached hereto and made a part hereof.

(4) That the vertical limits of the Dean Permo-Pennsylvanian Pool shall consist of the Wolfcamp formation and the Pennsylvanian formation and the horizontal limits of said Dean Permo-Pennsylvanian Pool shall be that area described in Exhibit "B" attached hereto and made a part hereof.

IT IS FURTHER ORDERED:

That special pool rules applicable to the Dean-Devonian Pool be and the same are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS FOR
THE DEAN-DEVONIAN POOL

IT IS ORDERED:

(1) That the Dean-Devonian Pool be and the same is hereby created as the common source of supply as discovered in the Sinclair Oil and Gas Company's J. P. Dean Well No. 1, located 660 feet from the south line and 1980 feet from the west line of Section 35, Township 15 South, Range 36 East, NMPM, Lea County, New Mexico, and any extension thereof as may be determined by further development.

(2) That 40-acre proration units be and the same are hereby established for the Dean-Devonian Pool.

(3) That all wells drilled in the Dean-Devonian Pool shall be located in the center of each governmental quarter-quarter section, with a tolerance of 150 feet in any direction to avoid surface obstructions.

(4) That the Magnolia Petroleum Company's Harkrider Well No. 1, located 1980 feet from the South line and 330 feet from the East line of Section 34, Township 15 South, Range 36 East, NMPM, and the Ohio Oil Company's A. C. Dean "A" Well No. 1, located 990 feet from the North line and 660 feet from the West line of Section 35, Township 15 South, Range 36 East, NMPM, shall each be an exception to the spacing rules herein provided.

(5) That no well shall be drilled or produced in said pool except in conformity with the spacing pattern set forth above without special order of the Commission after due notice and hearing.

(6) That individual well allowables for wells drilled in conformity with the spacing pattern set forth above shall be established in accordance with the 40-acre proportional factors provided in the Rules and Regulations of the Commission.

(7) That those wells completed within the Dean-Devonian Pool on lots containing more than 40 acres shall have their allowables computed in accordance with the provisions of Rule 104, Paragraphs (h) and (j).

(8) That those wells located on lots containing more than 40 acres may be located 660 feet from the north line of the lot.

IT IS FURTHER ORDERED:

That special pool rules applicable to the Dean Permo-Pennsylvanian Pool be and the same are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS FOR THE
DEAN PERMO-PENNSYLVANIAN POOL

IT IS ORDERED:

(1) That the Dean Permo-Pennsylvanian Pool in Lea County, New Mexico, classified as an oil pool for Wolfcamp-Pennsylvanian production be and the same is hereby created.

(2) That 80-acre proration units be and the same are hereby established for the Dean Permo-Pennsylvanian Pool; further, that all wells drilled to and completed in said Dean Permo-Pennsylvanian Pool shall be located on 80-acre proration units embracing two adjacent governmental quarter-quarter sections or lots within a single governmental section; further, that the aforesaid 80-acre proration units shall run either North and South or East and West. The well thereon may be located on either quarter-quarter section or lot comprising the 80-acre unit, but shall not be closer than 330 feet from the boundaries of such quarter-quarter section or lot.

(3) That Form C-128 filed in conformance with Rule 1104 shall outline the acreage dedicated to any projected well.

(4) That individual well allowables for wells drilled in conformity with the 80-acre spacing rules herein provided for the Dean Permo-Pennsylvanian Pool shall be established in accordance with the 80-acre proportional factor for a depth range of 11,000 to 12,000 feet, and with the other provisions of Rule 505 of the Rules and Regulations of the Commission. Provided, however, that the date of assignment of an allowable to a newly completed well shall be governed by the provisions of Rule 503 (c) and the date of receipt by the Commission of the Commission's Affidavit of Communitization Agreement, if applicable.

(5) That each well which was drilled or was drilling as of October 4, 1956, and which is located within the limits of the Dean Permo-Pennsylvanian Pool as herein defined, is hereby granted an exception to the 80-acre spacing requirements of this order; further, that any such excepted well shall be assigned an allowable, effective at 7 o'clock a.m., Mountain Standard Time, December 1, 1956, which is in the same proportion to the standard 80-acre allowable that the well's dedicated acreage is to 80 acres. Provided, however, that the allowable of any such excepted well may be increased to that of a standard unit effective on the date of receipt by the Commission of Commission Form C-128, Well Location and/or Gas Proration Plat, indicating that sufficient additional acreage has been dedicated to the excepted well to form a standard proration unit as defined in Paragraph (2) above, or on the date of receipt by the Commission of the Commission's Affidavit of Communitization Agreement, if applicable, whichever date is later. Provided however, that no well shall have its allowable increased to that of a standard unit prior to December 1, 1956.

(6) The allowable for any well completed in the Dean Permo-Pennsylvanian Pool and to which is assigned any governmental quarter-quarter section or lot containing less than 39 1/2 acres or more than 40 1/2 acres shall have its allowable decreased or increased in the proportion that the total number of acres assigned to the well bears to 80 acres.

IT IS FURTHER ORDERED:

That special rules for the dual completion of wells in the Dean-Devonian Pool and the Dean Permo-Pennsylvanian Pool be and the same are hereby promulgated as follows:

SPECIAL RULES FOR THE DUAL COMPLETION
OF WELLS IN THE DEAN-DEVONIAN POOL AND THE
DEAN PERMO-PENNSYLVANIAN POOL

IT IS ORDERED:

1. That the application of Sinclair Oil and Gas Company for an order promulgating special pool rules for the Dean-Devonian common source of supply and the Dean Permo-Pennsylvanian common source of supply permitting the dual completion of a well within the horizontal and the vertical limits of the subject pools, after individual approval as hereinafter provided, be and the same is hereby approved.

(2) (a) That the dual completion of any well within the horizontal and vertical limits of the subject pools may be permitted only by order of the Commission after due notice and hearing, except as noted by Paragraph 2 (c) below.

(b) The application for such hearing shall be submitted in triplicate and shall include an exhibit showing the location of all wells in both pools and a diagrammatic sketch of the proposed dual completion and shall set forth all material facts on the common sources of supply involved, and the manner and method of completion proposed.

(c) The Secretary of the Commission shall have authority to grant administratively an exception to the requirements of Paragraph (a) above without notice and hearing where application for administrative approval has been filed in due form and includes an exhibit showing the location of all wells in the subject pools and a diagrammatic sketch of the proposed dual completion, and has set forth all material facts on the common sources of supply involved, and the manner and method of dual completion proposed, and

(1) applicant proposes to dually complete a well in the Dean-Devonian common source of supply and the Dean Permo-Pennsylvanian common source of supply and the well is located within the horizontal limits of both of the pools or is located within the horizontal limits of one of the pools and within one-half mile of the horizontal limits of the other pool, and

(2) applicant proposes to complete and equip the well in such a manner that the Dean-Devonian common source of supply and the Dean Permo-Pennsylvanian common source of supply shall be completely segregated from each other by setting the production casing string at total depth and circulating cement from total depth to a point at least 500 feet above the uppermost perforation, and by utilizing parallel strings of tubing, one string to each of the common sources of supply, and a permanent retainer-type production packer.

Applicants shall also furnish all operators who own leases within the horizontal limits of either or both pools a copy of the application and a diagrammatic sketch of the proposed dual completion and a plat showing the location of all wells in the subject pools. Applicant shall include with his application to the Commission a written

stipulation that all such operators have been properly notified. The Secretary of the Commission shall wait at least 20 days before approving any such dual completion, and shall approve such dual completion only in the absence of objection from any such operator owning acreage in either or both of the pools. In the event an operator objects to the dual completion, the Commission shall consider the matter only after proper notice and hearing.

The Commission may waive the 20-day waiting period requirements if the applicant furnishes the Commission with the written consent to the dual completion by all of the aforesaid operators involved.

PROVIDED HOWEVER, That any well so dually completed shall be completed and thereafter produced in such a manner that there will be no commingling within the well-bore, either within or outside the casing, of gas, oil and gas, or oil produced from either or both of the separate strata.

PROVIDED FURTHER, That upon the actual dual completion of any such well, the operator shall submit to the District Office of the Commission at Hobbs, New Mexico, copies of Oil Conservation Commission Form C-103, Form C-104, and Form C-110 outlining the information required on those forms by existing Rules and Regulations, packer setting affidavit form, and two copies of the electric log of the well. Operator shall also submit in duplicate evidence indicating that the cement behind the production casing string was circulated from total depth to a point at least 500 feet above the uppermost perforation.

PROVIDED FURTHER, That any well so dually completed shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used, at any time, as may be required by the Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas-oil ratio thereof determined.

PROVIDED FURTHER, That the operator shall be required to make any and all tests, including segregation tests, but not excluding other tests and/or determinations at any convenient time and in such manner as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of the Commission and by representatives of offset operators, if any there be, at their election, and the results of each test properly attested to by the operator and all witnesses, and shall be filed with the Commission within ten days after completion of such test.

PROVIDED FURTHER, That upon the actual dual completion of any such well, operator shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and

produce the seal between the strata, and a special report of production, gas-oil ratio, and reservoir pressure determination of each producing zone or stratum immediately following completion.

PROVIDED FURTHER, That upon actual dual completion of any well, operator shall within 10 days commence a segregation test, and shall conduct and report the results of said test in accordance with the instructions pertaining to and a part of the Commission's "Packer Leakage Test" form. Such segregation tests shall also be conducted at six-months intervals from the date of initial dual completion and at such other times as may be deemed necessary by the Commission.

IT IS FURTHER ORDERED:

That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or the protection of correlative rights; upon failure of any operator to comply with any requirement of this order, after proper notice and hearing the Commission may terminate the authority granted and require, in the interests of conservation, the operator or its successors and assigns to limit its activities to regular single-zone production insofar as the well wherein the failure to comply be concerned.

EXHIBIT "A"

Horizontal limits of the Dean-Devonian Pool

TOWNSHIP 15 SOUTH, RANGE 36 EAST, NMPM

All Section 26;

E/2 NE/4 and SE/4 Section 34;

All Section 35;

TOWNSHIP 16 SOUTH, RANGE 37 EAST, NMPM

Lots 1, 2, 3, 4, 5, 6, 7, & 8 of Section 5;

Lots 1, 2, 7, & 8 of Section 6;

EXHIBIT "B"

Horizontal limits of the Dean Permo-Pennsylvanian Pool

TOWNSHIP 15 SOUTH, RANGE 36 EAST, NMPM

SW/4 SW/4 Section 25;

All Section 26;

E/2 NE/4 and SE/4 Section 34;

All Section 35;

NW/4 Section 36;

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Order No. R-892

TOWNSHIP 16 SOUTH, RANGE 37 EAST, NMPM
Lots 1, 2, 3, 4, 5, 6, 7, & 8 of Section 5;
Lot 1 of Section 6;

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN F. SIMMS, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

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