

**STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION**

**IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:**

**CASE NO. 11018
Order No. R-10199**

**APPLICATION OF TEXACO EXPLORATION
AND PRODUCTION INC. FOR POOL CREATION
AND THE PROMULGATION OF SPECIAL POOL
RULES, LEA COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on July 7, 1994, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 26th day of September, 1994, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

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

(2) Division Case Nos. 11016, 11017 and 11018 were consolidated at the time of the hearing for the purpose of testimony.

(3) The applicant, Texaco Exploration and Production Inc. (Texaco), seeks the creation of a new pool for the production of oil and gas from the Drinkard and Abo formations, said pool to comprise the NE/4 NE/4 of Section 8 and the NW/4 NE/4 and N/2 NW/4 of Section 9, both in Township 23 South, Range 37 East, NMPM, Lea County, New Mexico.

(4) The applicant further seeks to establish a limiting gas-oil ratio for the proposed Drinkard-Abo pool of 10,000 cubic feet of gas per barrel of oil.

(5) Texaco proposes that the vertical limits of the pool comprise that interval containing the Drinkard and Abo formations as found from a depth of 6,346 feet to 7,160 feet as identified on the electric log run on the F. B. Davis Well No. 1 located in Unit A of Section 8, Township 23 South, Range 37 East, NMPM.

(6) Texaco proposes to develop the Drinkard-Abo oil and gas reserves within this area concurrently and in conjunction with the development of the oil and gas reserves within the Tubb formation (being the subject of Division Case No. 11016), and the Lower Paddock-Blinebry formation (being the subject of Division Case No. 11017).

(7) During February, 1994, the applicant recompleted its G. W. Sims Well No. 1, located in Unit B of Section 9, from the Northwest Teague-Devonian Pool to the Drinkard and Abo formations. The Drinkard formation is currently being produced through the perforated interval from 6,424 feet to 6,574 feet, and is capable of producing at an initial rate of 140 BOPD and 1,528 MCFGD. The Abo formation, which is perforated from 6,634 feet to 6,995 feet and is capable of producing at an initial rate of 44 BOPD and 433 MCFGD, is currently shut-in below a retrievable bridge plug.

(8) During April, 1994, the applicant also recompleted its F. B. Davis Well No. 1, located in Unit A of Section 8, from the Northwest Teague-Devonian to the Drinkard and Abo formations. The subject well is currently dually completed in the Drinkard and Abo formations, with the Drinkard being produced through the perforated interval from 6,357 feet to 6,437 feet at an initial rate of 22 BOPD and 1090 MCFGD, and the Abo being produced through the perforated interval from 6,693 feet to 7,030 feet at an initial rate of 6 BOPD and 372 MCFGD.

(9) The F. B. Davis Well No. 1 is located within one mile of the outer boundary of the Teague-Drinkard Pool, an oil pool comprising the NE/4 of Section 17, Township 23 South, Range 37 East, NMPM.

(10) The G. W. Sims Well No. 1 is located within one mile of the outer boundary of the South Drinkard Pool, an oil pool comprising all of Section 3, Township 23 South, Range 37 East, NMPM.

(11) Division records indicate that the closest Abo pool is the North Teague-Abo Gas Pool which comprises the SW/4 of Section 16. This pool is located approximately 1.25 miles south of the proposed Drinkard-Abo pool.

(12) According to Division records, the F. B. Davis Well No. 1 and the G. W. Sims Well No. 1 are currently classified as being in the Teague-Drinkard Pool, although to date the Division has not extended the pool boundaries of the Teague-Drinkard Pool to include this acreage.

(13) The applicant presented geologic evidence and testimony to support its position that the subject wells have discovered a new common source of supply in the Drinkard and Abo formations.

(14) Applicant's geologic evidence and testimony indicates that the proposed pool is:

- a) a circular shaped feature of limited extent draped over a structural high centered approximately in the NW/4 of Section 9. The trap of the reservoir is formed by a down structural limit of effective porosity within the Drinkard and Abo formations;
- b) a single structure feature geologically separated from the Teague-Drinkard Pool, the South Drinkard Pool and the North Teague-Abo Gas Pool;
- c) a single common source of supply separated from and not in communication with any other Drinkard-Abo pool in this area as evidenced by bottomhole pressure buildup data and other reservoir pressure data.

(15) The geologic data indicates that the F. B. Davis Well No. 1 and the G. W. Sims Well No. 1 have discovered a new common source of supply in the Drinkard-Abo formation.

(16) Applicant testified that there does not appear to be a geologic vertical barrier between the Drinkard and Abo formations in this area and that the Drinkard-Abo should represent a single common source of supply.

(17) It has become the practice of the Division to include both the Abo and Drinkard formations within a single pool in this area as evidenced by the extension of the Cline-Drinkard Pool to include the Abo formation, (Division Order No. R-4119), and the extension of the South Brunson-Abo Pool to include the Drinkard formation (Division Order No. R-8593).

(18) The evidence presented indicates that a new pool for the production of oil and gas from the Drinkard and Abo formations should be created and designated the North Teague Drinkard-Abo Pool. The North Teague Drinkard-Abo Pool should initially comprise the NE/4 NE/4 of Section 8, and the N/2 NW/4 and NW/4 NE/4 of Section 9.

(19) Texaco presented geologic and engineering data and conclusions to demonstrate that:

- a) the pool is a solution gas drive reservoir with the two Drinkard and one Abo completions exhibiting production characteristics of oil wells with high GOR's;
- b) there is no indication that a gas cap exists or is being formed up-structure from the oil wells;
- c) the occurrence of increased volumes of gas production in the pool is attributed to the presence of small higher porosity stringers in the Drinkard-Abo formation which are both laterally and horizontally discontinuous.

(20) Production tests conducted on the Drinkard formation within the G. W. Sims Well No. 1 indicate that the well produces more efficiently on a larger choke setting and that the smaller choke setting results in higher GOR's.

(21) The test data further indicates that the G. W. Sims Well No. 1 produces more efficiently and recovers more liquid hydrocarbons at a gas-oil ratio limitation of approximately 10,000:1 than at lesser GOR's.

(22) The evidence available at the current time indicates that a gas-oil ratio limitation of 10,000 cubic feet of gas per barrel of oil should be established for a temporary period of time, pending the gathering of additional reservoir data.

(23) A gas-oil ratio limitation of 10,000 cubic feet of gas per barrel of oil should be established for the North Teague Drinkard-Abo Pool for a temporary period of eighteen months to permit Texaco the opportunity to gather additional reservoir data. This case should be reopened at an examiner hearing in March, 1996, at which time the operators in the subject pool should be prepared to appear and show cause why a gas-oil ratio limitation of 10,000 cubic feet of gas per barrel of oil is appropriate, on a permanent basis, for the North Teague Drinkard-Abo Pool.

(24) At the hearing the applicant requested that the gas-oil ratio limitation established herein be made effective retroactive to February, 1994, being the date of first production from the G. W. Sims Well No. 1.

(25) The evidence presented in this case indicates that the North Teague Drinkard-Abo Pool will likely be very limited in extent and should ultimately only comprise acreage which is currently owned and operated by Texaco Exploration & Producing Inc. The applicant's request for a retroactive date for establishment of a 10,000:1 GOR should therefore not adversely affect any offset operator and should not adversely affect the reservoir, and should therefore be approved.

IT IS THEREFORE ORDERED THAT:

(1) Effective February 1, 1994, a new pool for the production of oil and gas from the Drinkard and Abo formations is hereby created and designated the North Teague Drinkard-Abo Pool. The North Teague Drinkard-Abo Pool shall comprise the NE/4 NE/4 of Section 8, and the N/2 NW/4 and the NW/4 NE/4 of Section 9, both in Township 23 South, Range 37 East, NMPM, Lea County, New Mexico.

(2) The vertical limits of the North Teague Drinkard-Abo Pool shall comprise that interval containing the Drinkard and Abo formations as found from a depth of 6,346 feet to 7,160 feet as identified on the electric log run on the F. B. Davis Well No. 1 located in Unit A of Section 8, Township 23 South, Range 37 East, NMPM.

(3) Temporary Special Rules and Regulations for the North Teague Drinkard-Abo Pool are hereby promulgated as follows:

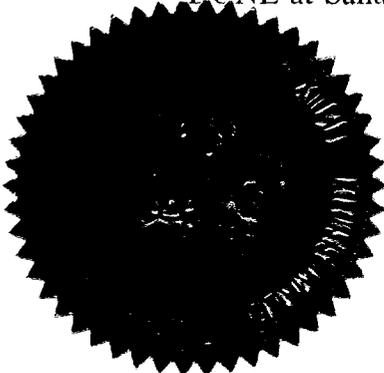
**TEMPORARY SPECIAL RULES AND REGULATIONS FOR THE
NORTH TEAGUE DRINKARD-ABO POOL**

RULE 1. The limiting gas-oil ratio for the North Teague Drinkard-Abo Pool is 10,000 cubic feet of gas per barrel of oil.

(4) This case shall be reopened at an examiner hearing in March, 1996, at which time the operators in the subject pool should be prepared to appear and show cause why a gas-oil ratio limitation of 10,000 cubic feet of gas per barrel of oil is appropriate, on a permanent basis, for the North Teague Drinkard-Abo Pool.

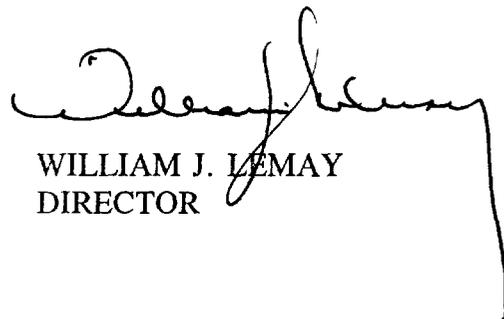
(5) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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



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STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
DIRECTOR