

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. 10935
ORDER NO. R-10096*

**APPLICATION OF STRATA PRODUCTION COMPANY FOR SPECIAL POOL
RULES, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 17, 1994, at Santa Fe, New Mexico, before Examiner Jim Morrow.

Now, on this 11th day of April, 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) The applicant, Strata Production Company (Strata), seeks an order promulgating special rules and regulations for the Nash Draw-Brushy Canyon Pool, including a provision for a gas-oil ratio limitation of 10,000 cubic feet of gas per barrel of oil. Said pool is located in portions of Township 23 South, Ranges 29 and 30 East, NMPM, Eddy County, New Mexico.
- (3) The Nash Draw-Brushy Canyon Pool was created by Division Order No. R-9771 on December 1, 1992 and currently includes the S/2 of Section 12 and the E/2 of Section 13, Township 23 South, Range 29 East, and the NW/4 of Section 18, Township 23 South, Range 30 East, NMPM, Eddy County, New Mexico. The pool is currently governed by General Statewide Rules and Regulations including an oil allowable of 142 barrels per day, a gas-oil ratio (GOR) of 2000, and a daily gas limit of 284 MCF.
- (4) There are currently nine wells producing from the Nash Draw-Brushy Canyon Pool. All are in the 8 Section Nash Unit, which is operated by Strata.

(5) The applicant presented cross sections and structure and isopach maps to depict the Delaware producing formations in the pool. The evidence shows that the main producing interval in the Nash Draw-Brushy Canyon Pool is similar to that in the East Loving-Brushy Canyon Pool which is located 7 miles west of the Nash Draw-Brushy Canyon Pool. The East Loving-Brushy Canyon Pool is developed with 110 wells, has recovered over 4 million barrels of oil, and is currently producing with a GOR limit of 8,000.

(6) Geologic evidence and well test information also shows that producing GORs are not related to structure. Wells lower on the structure produce at slightly lower ratios than those wells located higher structurally. Applicant's witnesses concluded that this indicates there is no gas cap in the pool.

(7) Engineering evidence was presented to show that the initial producing GOR in the Nash Draw-Brushy Canyon Pool was approximately 1000. The current average GOR is 4,000 with some individual wells as high as 8,000. Bubble point pressure in the pool is 2463 psia, and current reservoir pressure is 2963 psia.

(8) Evidence was also submitted to show that water cut has decreased from a high of 58% to the present rate of 40%.

(9) The applicant presented the results of a study of all the Delaware wells completed in Southeast New Mexico between 1986 and 1990. From this study a typical decline curve for Delaware wells was developed. It indicates that typically, Delaware wells decline at 50% the first year, 25% the next two years, and 12% thereafter. The typical decline curve was applied to the East Loving-Brushy Canyon Pool and other Delaware pools in the area with a good match, and was used to predict future performance for the Nash Draw-Brushy Canyon Pool.

(10) The applicant's engineering witness testified that the increasing GOR, declining water cut, and well test information which shows that GORs are not related to structure, proves that the Nash Draw-Brushy Canyon Pool is a typical solution gas drive reservoir, with ultimate recovery not related to producing rates.

(11) The applicant submitted economic data for the Nash Draw-Brushy Canyon Pool comparing reserves, projected life, operating expense, and cash flow for 2000 to 1 and 10,000 to 1 GOR limits. For the same ultimate recovery, economics were greatly improved with the 10,000 to 1 limit.

(12) Based on the applicant's evidence, a GOR limit of 8000 (daily gas limit of 1136 MCF per well per day) should be established rather than the 10,000 to 1 limit requested. As requested by the applicant, the increased GOR limit should be temporary, subject to review in 18 months.

IT IS THEREFORE ORDERED THAT:

(1) Temporary Special Rules for said Nash Draw-Brushy Canyon Pool are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS
FOR THE
NASH DRAW-BRUSHY CANYON POOL**

RULE 1. Each well completed or recompleted in the Nash Draw-Brushy Canyon Pool or in the Brushy Canyon formation within one mile thereof, and not nearer to or within the limits of another designated Brushy Canyon Pool, shall be produced in accordance with the Special Rules herein set forth.

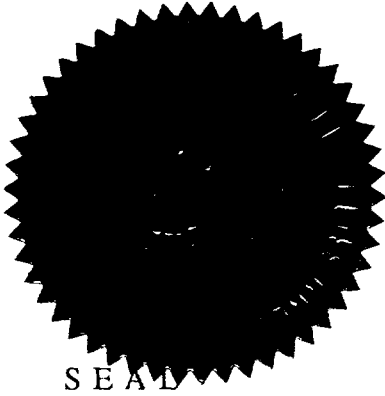
RULE 2. The limiting gas/oil ratio for said Nash Draw-Brushy Canyon Pool shall be 8,000 cubic feet of gas per barrel of oil produced; each proration unit in said pool shall produce only that volume of gas equivalent to 8,000 multiplied by the top oil allowable for the proration unit (top allowable remains at 142 barrels of oil per day for a 40-acre proration unit).

IT IS FURTHER ORDERED THAT:

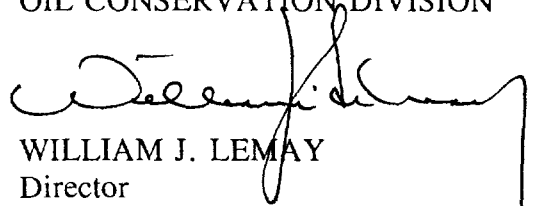
(2) The above temporary rules shall be reviewed at a hearing called by the Oil Conservation Division on its own motion on or about November 1, 1995.

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

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



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


WILLIAM J. LEMAY
Director