

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. 11435
ORDER NO. R-10555

**APPLICATION OF SHELL WESTERN E & P INC. TO AMEND DIVISION
ADMINISTRATIVE ORDER DHC-1149, LEA COUNTY, NEW MEXICO**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 8, 1996, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 4th day of March, 1996 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) By Administrative Order DHC-1149, dated September 25, 1995, the Division granted an exception to Division **Rule 303.A** of the Division's General Rules and Regulations and authorized Shell Western E & P Inc. to commingle production from the Vacuum-Wolfcamp and Vacuum-Upper Pennsylvanian Pools within the wellbore of its State "A" Well No. 10 (**API No. 30-025-32844**), located at a previously approved unorthodox oil well location for both zones (see Division Administrative Order NSL-3516, dated April 6, 1995), 940 feet from the North and East lines (Unit A) of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico.

(3) In accordance with **Rule 303.C(4)**, said Administrative "downhole commingling" Order limited the total commingled oil production from the well to 80 barrels per day and total water production to 160 barrels per day. Said order further set a maximum on the daily amount of gas to be produced from the well to 640 MCF per day, which is determined by multiplying the top unit oil allowable for the Vacuum-Middle Pennsylvanian

Pool of 320 barrels of oil per day by 2,000. The allocation of production was set forth in said order as follows:

| | Oil | Gas |
|--|------------|------------|
| <i>Vacuum-Wolfcamp Pool:</i> | 35% | 37% |
| <i>Vacuum-Middle Pennsylvanian Pool:</i> | 65% | 63%. |

(4) At this time Shell Western E & P Inc. seeks to amend the provisions of said Administrative Order DHC-1149 to allow for a 300 barrel per day limit on the well's commingled oil production and for an increase to 300 barrels per day in the limit of the well's total water production.

(5) By Division Order No. R-2422, as amended by Division Order No. R-2422-A, the Vacuum-Wolfcamp Pool was created, defined, and special rules and regulations were adopted, which included provisions for 80-acre spacing and proration units (see **Rule 2**) and designated well location requirements where each well completed in said pool is to be within 200 feet of the center of either the NW/4 or the SE/4 of a governmental quarter section (see **Rule 4**). Further, the allowable for a standard 80-acre spacing and proration unit in the Vacuum-Wolfcamp Pool is currently 355 barrels of oil per day with a limiting gas/oil ratio of 2,000 cubic feet of gas per barrel of oil or 710 MCF per day.

(6) The Vacuum-Middle Pennsylvanian Pool is currently governed by the Division's Statewide Rules and Regulations which require standard 40-acre oil spacing and proration units with wells to be located no closer than 330 feet from the outer boundary of a spacing unit, a standard oil allowable of 320 barrels of oil per day, and a limiting gas-oil ratio of 2,000 cubic feet per barrel of oil or 640 MCF per day.

(7) Vacuum-Wolfcamp Pool production from the subject well is currently dedicated to the N/2 NE/4 of said Section 31 forming a standard 80-acre oil spacing and proration unit and the Vacuum-Middle Pennsylvanian Pool production is dedicated to the NE/4 NE/4 of said Section 31 forming a standard 40-acre oil spacing and proration unit. The NE/4 of said Section 31 comprises one single State lease (No. B-02354) and, as stated in the administrative application submitted by Shell Western E & P Inc. in which Order DHC-1149 was issued, all mineral interest ownership is common throughout both intervals.

(8) The initial production equipment installed on this well when the downhole commingling initially commenced (September, 1995) was sufficient to produce at the rate prescribed in said Order DHC-1149. Subsequent evaluation of this well's producing capability indicated the need for increased pump capacity. Such pump increases have resulted in the over production of the assigned 80 barrel-a-day limit.

(9) According to the evidence submitted by the applicant this increased production can be attributed to the Middle Pennsylvanian interval since Wolfcamp production was being lifted artificially prior to the downhole commingling and was in a pump-off condition, the Middle Pennsylvanian zone however was flowing prior to downhole commingling. Even with this increased production from the Middle Pennsylvanian interval, the applicant contends that the Wolfcamp formation can no longer be economically produced independent of the Middle Pennsylvanian zone and downhole commingling is necessary to permit any continued production from the Wolfcamp formation. To allow the continued commingling may result in the recovery of additional hydrocarbons that might not otherwise be produced, thereby preventing waste.

(10) The reservoir characteristics of each of the subject zones are such that underground waste would not be caused by allowing the downhole commingling to continue at the increased flow rates as proposed by the applicant, provided that the well is not shut-in for an extended period.

(11) No offset operator or interest owner appeared at the hearing in opposition to this application.

(12) To afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Hobbs district office of the Division any time the subject well is shut-in for seven consecutive days.

(13) The following allocation change for the commingled production from the two zones was presented by the applicant and was determined by using the actual production history from the Wolfcamp formation and then attributing the well's current production rate minus the Wolfcamp's last production rate prior to commingling. This ratio should remain the same for the life of the well:

| | Gas | Oil |
|--|------------|------------|
| <i>Vacuum-Wolfcamp Pool:</i> | 10% | 10% |
| <i>Vacuum-Middle Pennsylvanian Pool:</i> | 90% | 90% |

(14) Approval of this application is in the best interest of conservation, will serve to prevent waste, and protect correlative rights.

(15) The order issued in this case should serve to replace the previous Division Administrative Order DHC-1149.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Shell Western E & P Inc., is hereby authorized to continue commingling production from the Vacuum-Wolfcamp and Vacuum-Upper Pennsylvanian Pools within the wellbore of its State "A" Well No. 10 (API No. 30-025-32844), located at a previously approved unorthodox oil well location for both zones (see Division Administrative Order NSL-3516, dated April 6, 1995), 940 feet from the North and East lines (Unit A) of Section 31, Township 17 South, Range 35 East, NMPM, Lea County, New Mexico.

PROVIDED HOWEVER THAT:

(2) Total commingled oil production from the subject well shall not exceed 300 barrels per day and total water production shall not exceed 300 barrels per day.

PROVIDED FURTHER THAT:

(3) The maximum amount of gas which may be produced daily from the subject well shall not exceed 640 MCF per day, which is the current casinghead gas allowable for the Vacuum-Middle Pennsylvanian Pool.

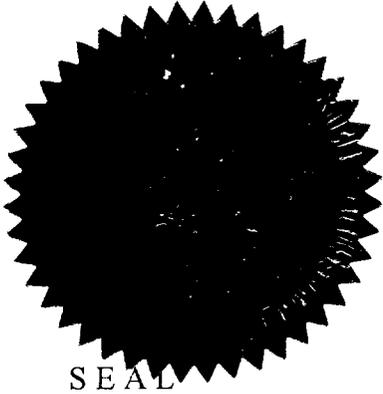
(4) 10 percent of the commingled oil and commingled gas production shall be allocated to the Vacuum-Wolfcamp Pool. 90 percent of the commingled oil and commingled gas production shall be allocated to the Vacuum-Middle Pennsylvanian Pool.

(5) The operator of the subject well shall immediately notify the Division's Hobbs District Office any time the well has been shut-in for seven consecutive days and shall concurrently present to the Division a plan for remedial action.

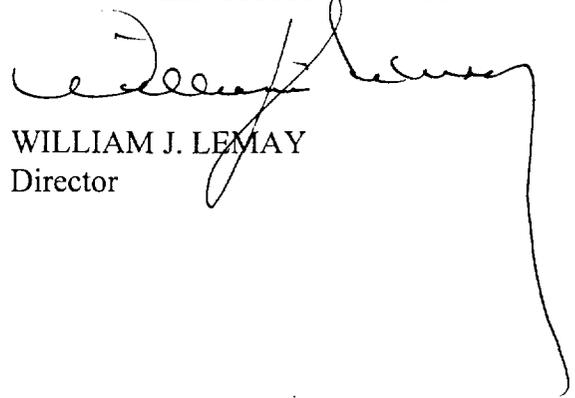
(6) Division Administrative Order DHC-1149, dated September 25, 1995, is hereby superseded by the implementation of this order.

(7) 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.



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A handwritten signature in black ink, appearing to read 'William J. Lemay', written over the typed name and title.

WILLIAM J. LEMAY
Director