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BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 4443
Order No. R-4059

APPLICATION OF PAN AMERICAN PETROLEUM
CORPORATION FOR DOWN-HOLE COMMINGLING,
RIO ARriba COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 28, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 10th day of November, 1970, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

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

(2) That the applicant, Pan American Petroleum Corporation,
is the owner and operator of the Jicarilla Apache 102 Lease com-
prising Sections 3, 4, 9, and 10, Township 26 North, Range 4 West,
NMPM, Rio Arriba County, New Mexico.

(3) That the applicant seeks authority to commingle produc-
tion from the BS Mesa-Gallup and Basin-Dakota Gas Pools in the
well-bores of four wells located on said lease as follows:

Jicarilla Apache Well No. 7 - Unit G - Section 3 ✓
Jicarilla Apache Well No. 9 - Unit G - Section 4 ✓
Jicarilla Apache Well No. 12 - Unit G - Section 9 ✓
Jicarilla Apache Well No. 11 - Unit C - Section 10 ✓

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(4) That the applicant further seeks a procedure whereby other wells on said Jicarilla Apache 102 Lease may be approved administratively for down-hole commingling.

(5) That the applicant proposes, as to each of said wells, to produce the commingled production through a single string of tubing set in a packer just above the Dakota perforations.

(6) That each of the above-described four wells is capable of producing only a very small amount of gas from either or both of the subject pools.

(7) That it is uneconomical to produce each of the above-described four wells as dual completions.

(8) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling.

(9) That the proposed commingling may result in the recovery of additional gas from each of the subject pools as to each of said four wells, thereby preventing waste, and will not violate correlative rights.

(10) That production tests should be conducted prior to commingling, to determine the production from each zone in each well.

(11) That a procedure should be adopted whereby other wells on said Jicarilla Apache 102 Lease having the same characteristics as the above-described four wells may be approved administratively for down-hole commingling.

(12) That Administrative Orders Nos. MC-1798 and MC-1858 should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Pan American Petroleum Corporation, is hereby authorized to complete each of the following-described four wells located in Township 26 North, Range 4 West, NMPM, Rio Arriba County, New Mexico, in such a manner as to produce gas from the BS Mesa-Gallup and Basin-Dakota Gas Pools through a

single string of tubing, commingling in the well-bore the production from each of said zones until further order of the Commission:

Jicarilla Apache Well No. 7 - Unit G - Section 3
Jicarilla Apache Well No. 9 - Unit G - Section 4
Jicarilla Apache Well No. 12 - Unit G - Section 9
Jicarilla Apache Well No. 11 - Unit C - Section 10

(2) That the production of each zone in each of the above-described wells shall be established and future production allocated to the Gallup and Dakota zones in each of the subject wells in accordance with the following procedure:

1. Prior to commingling, the daily rate of flow from the Dakota formation shall be established by employing the last 24 hours of a seven-day flow period of said zone. (Test #1.)
2. Subsequent to commingling, the daily rate of flow from the commingled Dakota and Gallup zones shall be established by employing the final 24 hours of a seven-day flow test of the commingled zones. (Test #2.)
3. Determine the BS Mesa-Gallup allocation of production factor as follows:
$$(\text{Gallup}_f) = \frac{\text{Test \#2} - \text{Test \#1}}{\text{Test \#2}}$$
4. Determine the monthly allocation of production as follows:
 - a. BS Mesa-Gallup gas production = $\text{Gallup}_f \times$ commingled gas production.
 - b. Basin-Dakota gas production = commingled gas production less calculated BS Mesa-Gallup gas production.

(3) That the Secretary-Director of the Commission may approve the down-hole commingling of BS Mesa-Gallup and Basin-Dakota gas production in other wells located on the Jicarilla 102 Lease comprising Sections 3, 4, 9, and 10 of said Township and Range,

provided such commingling is reasonably necessary to prevent waste and will not violate correlative rights.

(4) To obtain approval for down-hole commingling, the operator of the well shall submit the following in duplicate to the Secretary-Director of the Commission plus one copy to the appropriate District Office of the Commission:

- (a) Name and address of the operator.
- (b) Lease name, well number, well location.
- (c) Names of the pools the well is completed in and the Commission order number which authorized the dual completion.
- (d) A current (within 30 days) 24-hour productivity test on Commission Form C-116 showing the amount of oil, gas, and water produced from each zone.
- (e) A production decline curve for both zones showing that for a period of at least one year a steady rate of decline has been established for each zone which will permit a reasonable allocation of the commingled production to each zone for statistical purposes. (This requirement may be dispensed with in the case of a newly completed or recently completed well which has little or no production history. However, a complete resume of the well's completion history including description of treating, testing, etc., of each zone, and a prognostication of future production from each zone shall be submitted.)
- (f) Estimated bottom-hole pressure for each artificially lifted zone. A current (within 30 days) measured bottom-hole pressure for each zone capable of flowing.
- (g) A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.
- (h) A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.

single string of tubing, commingling in the well-bore the production from each of said zones until further order of the Commission:

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Jicarilla Apache Well No. 12 - Unit G - Section 9
Jicarilla Apache Well No. 11 - Unit C - Section 10

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1. Prior to commingling, the daily rate of flow from the Dakota formation shall be established by employing the last 24 hours of a seven-day flow period of said zone. (Test #1.)
2. Subsequent to commingling, the daily rate of flow from the commingled Dakota and Gallup zones shall be established by employing the final 24 hours of a seven-day flow test of the commingled zones. (Test #2.)
3. Determine the BS Mesa-Gallup allocation of production factor as follows:
$$(\text{Gallup}_f) = \frac{\text{Test \#2} - \text{Test \#1}}{\text{Test \#2}}$$
4. Determine the monthly allocation of production as follows:
 - a. BS Mesa-Gallup gas production = $\text{Gallup}_f \times$ commingled gas production.
 - b. Basin-Dakota gas production = commingled gas production less calculated BS Mesa-Gallup gas production.

(3) That the Secretary-Director of the Commission may approve the down-hole commingling of BS Mesa-Gallup and Basin-Dakota gas production in other wells located on the Jicarilla 102 Lease comprising Sections 3, 4, 9, and 10 of said Township and Range,

(1) A statement that all offset operators and, in the case of a well on Federal land, the United States Geological Survey, have been notified in writing of the proposed commingling.

(5) The Secretary-Director of the Commission may approve the proposed down-hole commingling in the absence of a valid objection within 20 days after the receipt of the application if, in his opinion, there is no disqualifying disparity of bottom-hole pressures or other reservoir characteristics, waste will not result thereby, and correlative rights will not be violated. The 20-day waiting period may be dispensed with upon receipt of waivers of objection from all parties mentioned in Order (4), paragraph (i).

(6) Upon such approval, the well shall be operated in accordance with the provisions of the administrative order which authorized the commingling, and allocation of the commingled production from the well to each of the producing zones shall be in accordance with the allocation formula set forth in the order.

(7) The Secretary-Director may rescind authority to commingle production in the well-bore and require both zones to be produced separately, if, in his opinion, waste or reservoir damage is resulting thereby.

(8) That the operator shall file with the Santa Fe Office of the Commission semi-annually a report showing the monthly Gallup production, the monthly Dakota production, and the monthly commingled production for each well during the preceding six months. Said report to be filed as stated until further order of the Commission.

(9) That the provisions of Order No. R-333-F shall continue to apply to the subject wells.

(10) That Administrative Orders Nos. MC-1798 and MC-1858 are hereby superseded.

(11) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

DAVID F. CARGO, Chairman

ALEX J. ARMIJO, Member

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

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