

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. 11424  
Order No. R-10558

APPLICATION OF ENRON OIL & GAS  
COMPANY FOR DOWNHOLE COMMINGLING  
AND A SPECIAL ALLOWABLE, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on November 16, 1995, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 11th 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) The applicant, Enron Oil & Gas Company (Enron), seeks authorization, on an area-wide basis, to downhole commingle the Delaware, Bone Spring and Wolfcamp formations within existing or future drilled wells located anywhere within the following described area, hereinafter referred to as the "development area", in Eddy County, New Mexico.

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM  
Section 36: All

TOWNSHIP 22 SOUTH, RANGE 31 EAST, NMPM  
Section 31: S/2

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM  
Section 1: All

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM  
Section 6: All

(3) The Southeast Quahada Ridge-Delaware, Los Medanos-Bone Spring, and South Los Medanos-Wolfcamp Pools currently comprise the following

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described lands within the development area:

Southeast Quahada Ridge-Delaware Pool  
TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM  
Section 36: S/2

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM  
Section 1: N/2

Los Medanos-Bone Spring Pool  
TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM  
Section 6: E/2, NW/4

South Los Medanos-Wolfcamp Pool  
TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM  
Section 36: NE/4 NE/4

(4) With the exception of the SW/4 and S/2 NW/4 of Section 1, the entire development area is located within the James Ranch Unit, a Federal exploratory unit which is currently operated by Bass Enterprises Production Company.

(5) The applicant and Bass Enterprises Production Company (Bass) are the majority working interest owners within the James Ranch Unit. According to applicant's testimony, some of the proposed downhole commingled wells will be operated by Bass and some will be operated by Enron.

(6) Appearances in this case were entered by Bass Enterprises Production Company, Santa Fe Energy Resources, Inc., and Westinghouse Corporation.

(7) According to applicant's evidence and testimony, the following described four existing wells within the development area are candidates for immediate downhole commingling:

<u>WELL NAME</u>	<u>WELL LOCATION</u>	<u>CURRENT COMPLETION</u>
James Ranch Unit No. 71	Unit A, Section 36	Wolfcamp & Bone Spring
		(Commingled)
James Ranch Unit No. 17	Unit F, Section 6	Bone Spring
James Ranch Unit No. 7	Unit G, Section 6	Bone Spring
James Ranch Unit No. 30	Unit J, Section 6	Bone Spring

(8) In addition, applicant's plan of development within the subject area includes the following:

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a) possibly recomplete the James Ranch Unit Well Nos. 1, 3, 4, 10, 11, 13 and 18, which are currently completed in either the Atoka, Morrow or Strawn formations, as downhole commingled wells in the Delaware, Bone Spring and Wolfcamp formations at such time as they become depleted;

b) drill up to a dozen new wells as downhole commingled wells in the Delaware, Bone Spring and Wolfcamp formations.

(9) Within the development area, there are also several existing Delaware producing wells, which, according to applicant's testimony, will not be deepened and commingled with the Bone Spring and Wolfcamp formations.

(10) Applicant presented geologic evidence and testimony in this case which indicates that:

a) the Delaware formation is currently being produced from and is potentially productive throughout the development area in the "B" "C" and "D" sand intervals of the Brushy Canyon member. This producing interval is found at a depth of approximately 6,700'-7,650';

b) the Bone Spring formation is currently being produced from and is potentially productive throughout the development area in the 3rd Bone Spring sand interval. This producing interval is found at a depth of approximately 10,850'-10,975';

c) the Wolfcamp formation is currently being produced from and is potentially productive throughout the development area in the Upper Wolfcamp sand interval. This producing interval is found at a depth of approximately 10,975'-11,140'.

(11) The applicant presented engineering evidence and testimony to demonstrate the producing characteristics of the Delaware, Bone Spring and Wolfcamp formations within the development area. The producing characteristics are summarized as follows:

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<u>FORMATION</u>	<u>PRODUCING RATES (AVERAGE)</u>		<u>INITIAL BHP</u>
	<u>INITIAL RATE</u>	<u>3 MONTH RATE</u>	
Delaware	100 BOPD	50 BOPD	3,300 PSI
	100 BWPD	80 BWPD	
Bone Spring	120 BOPD	47 BOPD	6,240 PSI
	20 BWPD	15 BWPD	
Wolfcamp	66 BOPD	27 BOPD	7,069 PSI
	0 BWPD	0 BWPD	

(12) The applicant's evidence and testimony indicates that the oil and gas reserves and/or producing rates within the Wolfcamp and Bone Spring formations in the development area are insufficient to justify the drilling of stand alone wells to recover such reserves.

(13) In addition, the applicant seeks to avoid dually completing the wells within the development area due to the numerous mechanical difficulties associated with this type of completion at these depths.

(14) The engineering evidence presented indicates that the Delaware, Bone Spring and Wolfcamp formations within the development area exhibit producing characteristics, including high decline rates, such that downhole commingling is necessary in order to economically drill for and recover oil and gas reserves in the deeper Bone Spring and Wolfcamp formations.

(15) Applicant testified that the interest ownership between the commingled zones in any given wellbore within the development area is common.

(16) Applicant notified all working, royalty and overriding royalty interest owners within the development area of its intent to downhole commingle the subject wells, and, no interest owner and/or offset operator appeared at the hearing in opposition to the application.

(17) Applicant proposes that the subject downhole commingled wells be assigned an oil allowable equal to the top unit allowable of the shallowest commingled horizon. For wells downhole commingled in the Delaware formation, the allowable would equal 187 BOPD (being the top unit allowable for the Southeast Quahada Ridge-Delaware Pool) and for wells commingled in the Bone Spring and Wolfcamp formations only, the allowable would equal 320 BOPD, (being the top unit allowable for the Los Medanos-Bone Spring Pool.

(18) The proposed allowables are in conformance with amendments to Division General Rule No. 303 (Downhole Commingling) which will shortly be adopted by the Oil Conservation Commission.

(19) Water production from the subject wells should be limited to no more than twice the oil allowable, as described above.

(20) The applicant's evidence further shows that:

- a) no commingled zone exposes the others to damage by produced liquids;
- b) the fluids from each zone are compatible with the other;
- c) the value of the commingled production is not less than the sum of the values of the individual production;
- d) the subject wells will be maintained at pumped off conditions at all times.

(21) Due to the extreme vertical separation between the Delaware and Bone Spring/Wolfcamp intervals, there is a possibility that the applicant's proposed method of production will not result in the efficient recovery of oil and gas reserves from all commingled horizons.

(22) In order to provide the Division the opportunity to assess the efficiency of applicant's proposed operations, the applicant should be required to obtain, prior to downhole commingling, producing bottomhole pressure data for each commingled zone in two of the wells proposed to be initially completed as downhole commingled producers. Subsequent to the completion of these wells as downhole commingled producers, the applicant should be required to obtain additional data deemed necessary by the supervisor of the Division's Artesia district office in order to assess the efficiency of the operations.

(23) If it is determined by the Division that applicant's method of production is not resulting in the efficient recovery of oil and gas reserves from all commingled horizons, the Division may, at that time, suspend authority to complete additional wells within the development area as downhole commingled producers.

(24) The downhole commingling of the subject wells within the development area will benefit the interest owners, should result in the recovery of oil and gas reserves which may otherwise not be recovered, thereby preventing waste, and will not violate correlative rights.

(25) Applicant testified that data to support allocation formulas will be obtained by producing each newly completed zone in each of the subject wells for a period of approximately 2-3 months. The applicant then proposes to utilize existing production data from previously completed zones and production data from newly completed zones to arrive at an accurate allocation formula for each well.

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(26) Applicant's proposed method of allocation is fair and reasonable and should be adopted.

(27) The applicant should consult with the supervisor of the Division's Artesia district office subsequent to the completion of testing operations on each of the subject wells in order to arrive at fixed allocation percentages for each well.

(28) The applicant should notify the supervisor of the Division's Artesia district office of the date and time of conductance of any tests on the proposed commingled wells in order that these operations may be witnessed.

(29) The operator should immediately notify the supervisor of the Artesia district office of the Division any time any of the subject wells have been shut-in for seven consecutive days and shall concurrently present, to the Division, a plan for remedial action.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Enron Oil & Gas Company, is hereby authorized to downhole commingle the Delaware, Bone Spring and Wolfcamp formations within existing or future drilled wells located anywhere within the following described area, hereinafter referred to as the "development area", Southeast Quahada Ridge-Delaware, Los Medanos-Bone Spring, and South Los Medanos-Wolfcamp Pools, Eddy County, New Mexico.

TOWNSHIP 22 SOUTH, RANGE 30 EAST, NMPM  
Section 36: All

TOWNSHIP 22 SOUTH, RANGE 31 EAST, NMPM  
Section 31: S/2

TOWNSHIP 23 SOUTH, RANGE 30 EAST, NMPM  
Section 1: All

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM  
Section 6: All

(2) The subject downhole commingled wells are hereby assigned an oil allowable to be determined as follows:

- a) all wells downhole commingled in the Delaware formation shall be assigned an oil allowable of 187 barrels of oil per day. In addition, such wells shall be limited to a water producing rate of 374 barrels of water per day; and,
- b) all wells downhole commingled in the Bone Spring and Wolfcamp formations only shall be assigned an oil allowable of 320 barrels of oil

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per day. In addition, such wells shall be limited to a water producing rate of 640 barrels of water per day.

(3) The applicant shall produce each newly completed zone in each of the subject wells for a period of approximately 2-3 months or until a stabilized rate of production is obtained. The applicant shall utilize existing production data from previously completed zones and production data from newly completed zones to arrive at an accurate allocation formula for each well.

(4) The applicant shall consult with the supervisor of the Division's Artesia district office subsequent to the completion of testing operations on the subject wells in order to arrive at fixed allocation percentages for each well.

(5) All allocation formulas and/or fixed percentages shall be submitted to the Santa Fe and Artesia offices of the Division.

(6) In order to provide the Division the opportunity to assess the efficiency of applicant's proposed operations, the applicant shall obtain, prior to downhole commingling, producing bottomhole pressure data for each commingled zone in two of the wells proposed to be initially completed as downhole commingled producers. Subsequent to the completion of these wells as downhole commingled producers, the applicant shall obtain additional data deemed necessary by the supervisor of the Division's Artesia district office in order to assess the efficiency of the operations.

(7) If it is determined by the Division that applicant's method of production is not resulting in the efficient recovery of oil and gas reserves from all commingled horizons, the Division may, at that time, suspend authority to complete additional wells within the development area as downhole commingled producers.

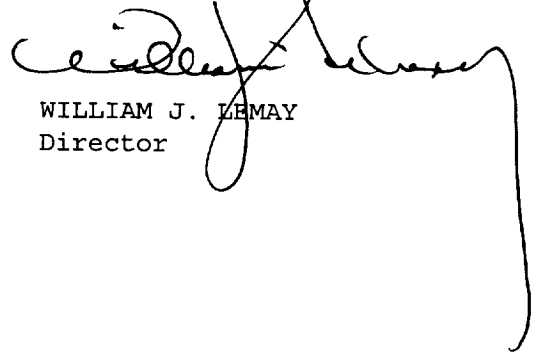
(8) The operator shall immediately notify the supervisor of the Artesia district office of the Division any time any of the subject wells have been shut-in for seven consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(9) Jurisdiction is hereby retained for the entry of such further orders as the Division may deem necessary.

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

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A handwritten signature in black ink, appearing to read 'William J. Lemay', is written over the typed name. The signature is fluid and cursive, with a long, sweeping tail that extends downwards and to the right.

WILLIAM J. LEMAY  
Director

S E A L