

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

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

**APPLICATION OF ARMSTRONG ENERGY
CORPORATION FOR ASSIGNMENT OF A
SPECIAL DEPTH BRACKET ALLOWABLE,
EDDY COUNTY, NEW MEXICO.**

**DE NOVO
CASE NO. 10653
ORDER NO. R-9842-A**

**APPLICATION OF ARMSTRONG ENERGY
CORPORATION FOR POOL EXTENSION
AND POOL ABOLISHMENT, EDDY COUNTY,
NEW MEXICO.**

**CASE NO. 10773
ORDER NO. R-10072**

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on January 13, 1994, at Santa Fe, New Mexico, before the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission".

NOW, on this 10th day of March, 1994, the Commission, a quorum being present, having considered the testimony, the record and being fully advised in the premises,

FINDS THAT:

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

(2) At the time of the hearing these cases were consolidated for the purposes of testimony.

(3) The applicant, Armstrong Energy Corporation (Armstrong) seeks to abolish the Quail Ridge-Delaware Pool and to extend the boundaries of the Northeast Lea-Delaware Pool.

(4) By Order No. R-9842, dated February 8, 1993, the Oil Conservation Division (Division) denied Armstrong's application for an increased allowable because of insufficient evidence and recommended that the two pools, the Quail Ridge-Delaware and the Northeast Lea-Delaware, be treated as one common source of supply.

(5) The Quail Ridge-Delaware Pool and the Northeast Lea-Delaware Pool are currently governed by the Division's General Statewide Rules and Regulations with development on 40-acre spacing units each having a top unit depth bracket allowable of 107 barrels of oil per day and a limiting gas/oil ratio of 2,000 cubic feet of gas per barrel of oil which results in a casinghead gas allowable of 214 MCF per day.

(6) Since the time of the original hearing, there have been 9 new wells completed within the governing limits of these pools.

(7) At the time of the original hearing, Armstrong had the support of Read and Stevens, an offset operator and working interest owner in the Armstrong wells but at this hearing Read and Stevens provided testimony in opposition to any increase in allowable but states that 150 BOPD would be an acceptable compromise. Read and Stevens does not oppose the consolidation of Delaware pools.

(8) By letter dated May 28, 1993, the Division granted Armstrong's request for a temporary 30 day testing allowable of up to 300 BOPD for the Armstrong Mobil Lea State Well No. 2, located 1800 feet from the South line and 900 feet from the West line, Section 2, Township 20 South, Range 34 East, NMPM, Lea County, New Mexico for the purpose of acquiring reservoir information.

(9) Armstrong agreed to the Read and Stevens request to continue the de novo hearing to allow Read and Stevens time to drill and evaluate additional wells which would enable them to formulate a position on Armstrong's request for increased allowable. As part of this agreement, Read and Stevens agreed not to seek make up of over production accumulated by Armstrong during the temporary testing allowable phase.

(10) The current geologic and engineering evidence indicates that the Northeast Lea-Delaware and Quail Ridge-Delaware Pools produce oil or are capable of producing oil from two primary oil reservoirs, the "first" sand and the "third" sand separated by the "second" sand which contains water throughout both fields. A fourth sand produces from two field wells but is not a significant oil producer.

(11) Geologic and engineering evidence show the "first" sand to be the main pay and productive or potentially productive in all wells in both Delaware fields. This sand may have a strong water drive as evidenced by constant GOR's and flat production curves.

(12) The information indicates that the third sand exhibits a strong water drive as evidenced by constant GORs, stable bottomhole pressures a definable oil-water contact and flat production curves and is a prolific oil producer in the Armstrong Mobil Lea State Wells No. 1, No. 2 and No. 3 in the SE/4 of Section 2. There is a difference of geologic interpretation as to whether the third sand is contiguous in deposition across a northwest-southeast trending nose separating the Armstrong wells in Section 2 from the Read and Stevens wells in Sections 3 and 10.

(13) The bubble point in the third sand reservoir is calculated to be 1200 psi with production occurring at a flowing pressure substantially above that pressure because of the reservoir's excellent ability to transmit fluids and repressure with water influx.

(14) Producing the Armstrong Mobil Lea State Wells at 300 BOPD would be producing them at only 30% of their calculated capacity and production testing suggests there should be no coning of water at these rates. Waste should not occur with higher producing rates.

(15) There is evidence that Armstrong's correlative rights may be impaired because they do not have enough allowable at 107 BOPD to produce their third sand oil and open up additional perforations in the first sand which is not producing and possibly being drained.

(16) There is additional evidence to suggest that drainage could occur in the third sand and that Read and Stevens' correlative rights could be impaired with higher allowables if the Armstrong wells, which are probably capable of draining in excess of 40 acres, were in communication in the oil leg of the third sand with the Read and Stevens wells in Sections 3 and 10. The fact that Read and Stevens owns working interest in the Armstrong wells helps to mitigate the reservoir quality advantage and associated higher productive capacity in the Armstrong wells.

(17) The available evidence suggests that without pressure drawdown in the reservoir and the development of a secondary gas cap to force updip edge oil into downdip producing wells, approximately 600,000 barrels of oil could be wasted. This additional attic oil could be recovered by increasing the allowable which would cause pressure reduction in the reservoir and a secondary gas cap to form, thus forcing the updip oil downdip to be captured by producing wells.

(18) Proper management and the establishment of a Maximum Efficient Rate (MER) for the field is critical to preventing waste. Additional reservoir data such as PVT data, accurate static BHP tests and production tests should be collected and evaluated which would help to establish an MER for this field, thus preventing waste.

CASE NO. 10653 - De Novo
Order No. R-9842-A

CASE NO. 10773
Order No. R-10072
Page -4-

(19) At least in the third sand production tests indicate that the reservoir is not rate sensitive and that higher allowables will not cause waste.

(20) Current evidence establishes one common source of supply for the Quail Ridge-Delaware and Northeast Lea-Delaware Pools requiring the abolishment of the Quail Ridge-Delaware Pool and the extension of the Northeast Lea-Delaware Pool to include acreage formerly assigned to the Quail Ridge-Delaware Pool.

(21) Because the available evidence favors Armstrong's geologic and engineering interpretation, the conclusions reached by Armstrong's witnesses, that waste will not occur and that correlative rights will be protected with increased allowables is a valid conclusion. Because more information is needed to firmly establish the drive mechanism in the first sand and an MER for the field, an increase in the field allowable to 300 BOPD should be temporary.

(22) Approval of the subject application should be for a period of approximately 12 months beginning March 1, 1994 to allow the operators in the field time to gather and evaluate additional information.

IT IS THEREFORE ORDERED THAT:

(1) The application of Armstrong Energy Corporation for special pool rules providing for an increase in allowable to 300 BOPD for the Northeast Lea-Delaware Pool is hereby approved on a temporary basis effective March 1, 1994.

(2) The Quail Ridge-Delaware Pool is hereby abolished and all proration units currently assigned to the Quail Ridge-Delaware Pool are hereby transferred to the Northeast Lea-Delaware Pool.

(3) This case shall be reopened at an examiner hearing in January, 1995 at which time the operators in the Northeast Lea-Delaware Pool may appear and present evidence and show cause why said 300 BOPD allowable should not revert to the standard 107 BOPD depth bracket allowable.

(4) The additional overproduction resulting from the testing allowable assigned to Armstrong in the May 28, 1993 Division letter to Armstrong is hereby canceled.

(5) The Division Director may, at any time it appears that reservoir damage is apparent or other evidence of waste is occurring, rescind the provision of the order and cause the top unit allowable for the Northeast Lea-Delaware Pool to be adjusted accordingly.

CASE NO. 10653 - De Novo
Order No. R-9842-A

CASE NO. 10773
Order No. R-10072
Page -5-

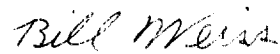
(6) Jurisdiction of this cause is hereby retained for the entry of such further orders as the Commission may deem necessary.

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

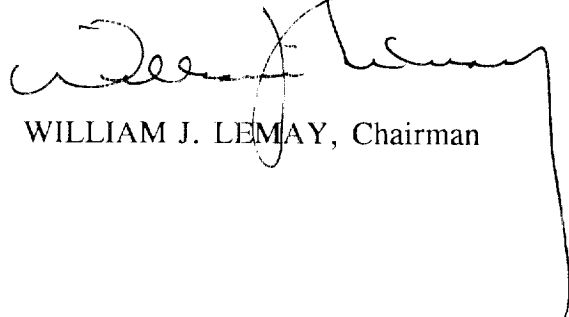
STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



JAMI BAILEY, Member



WILLIAM W. WEISS, Member



WILLIAM J. LEMAY, Chairman

S E A L