

In all other respects, Proration Order No. 48 in the Hobbs Field, Lea County, New Mexico, was unchanged.

The previous order provided for 60% allowable for acreage and 40% allowable for potential or capacity of the wells to produce, and machinery was set up under which the oil could be allocated according to provisions of Order No. 48.

Order No. 329 changes Section 9 of Order 48 and introduces as an element of proration bottom hole pressure in lieu of potential or capacity of wells to produce, the acreage factor being increased from 60% to 80%, potential capacity eliminated, and 20% of the allowable based upon bottom hole pressure. It is an attempt by order to equalize wells and accomplish something that nature and the elements did not do originally and to that extent is a violation of the laws of the State of New Mexico.

Section 9(a) and 9(b) of Order 329 are not complete in themselves, are ambiguous and do not harmonize with other provisions of Order No. 48 and machinery is not provided nor method determined by which the 20% distributed according to bottom hole pressure can be computed and the plan made workable.

The power of the Commission to allocate oil is provided in Section 12 of the Laws of New Mexico 1935 and I quote the first and the fourth paragraphs of the Act:

"Whenever, to prevent waste, the total allowable production for any field or pool in the state is fixed by the Commission in an amount less than that which the field or pool could produce if no restriction were imposed, the Commission shall prorate or distribute the allowable production among the producers in the field or pool. Such proration or distribution shall be made on a reasonable basis. The rules, regulations or orders of the Commission shall, so far as it is practicable to do so, afford to the owner of each property in a pool the opportunity to produce his just and equitable share of the oil and gas in the pool, being an amount, so far as can be practically determined, and so far as such can be practically obtained without waste, substantially in the proportion that the quantity of the recoverable oil and gas under such property bears to the total recoverable oil and gas in the pool, and for this purpose to use his just and equitable share of the reservoir energy."

"Minimum allowable for some wells may be advisable from time to time, especially with respect to wells already drilled when this act takes effect, to the end that the production will repay reasonable lifting cost and thus prevent premature abandonment and resulting waste."

The subdivisions of Section 12 omitted have nothing to do with the allowable, except in those instances where there has been a pooling of properties under a spacing plan or proration unit agreed upon.

The provisions of Sections 9 (a) 9 (b) of Hobbs Order No. 329 are in defiance of the quoted provisions of Section 12 ante governing the power of the Commission to allocate oil.

The first paragraph of Section 12 ante just quoted gives the Commission power to allow production among the producers in the field when the total allowable production for any field or pool in the state fixed by the Commission is in an amount less than that which the field or pool could produce if no restriction was imposed. The duty imposed upon the Commission, so far as practicable in its allocation, is to afford to each owner of each property in the pool the opportunity to produce his just and equitable share of oil and gas in the pool, being in an amount so far as can be practically determined and so far as can be produced without waste, substantially in the proportion the quantity of recoverable oil and gas under such property bears to the total recoverable oil and gas in the pool, and to use his just and equitable share of the reservoir energy.

The fourth paragraph of Section 12 ante allows the Commission to provide for a minimum allowable as to wells drilled when the act took effect, to prevent premature abandonment and resulting waste.

Each owner of land in the pool is entitled to recover as nearly as possible the recoverable oil under his land and to receive and use his just and equitable proportion of the reservoir energy.

Sections 9(a) and 9(b) of Hobbs Order No. 329 do not have for their support the authority granted by Section 12 ante and are in open defiance of such authority.

The evidence that was introduced shows there existed in the Hobbs pool a great variance in bottom hole pressure, likewise there was a great difference in the porosity and permeability of the formations from which the oil and gas are being produced and a difference in the thickness of the producing formations in various portions of the field.

It will be remembered the evidence showed beyond question in the Southeastern portion of the field the porosity and permeability were much less than in the other portions of the pool; not only that, the thickness of the producing horizon was less in the Southeastern portion of the field than in other portions; add to that the fact the bottom hole pressures taken indicated the pressure in the Southeastern portion of the field was much less than in other portions of the field, and except in rare instances, represented what is known as the low pressure area. It is evident an increase of oil in that area violates Section 12 of the Laws of New Mexico 1935.

If a field or pool could be found in which the porosity and permeability, the thickness of the producing horizon, and the bottom hole pressure were the same, then allocation based upon acreage would be equitable as each owner would have the same amount of recoverable oil under his property and would be using his equitable share of the reservoir energy. Wherever such uniformity of conditions does not exist as is established in the Hobbs pool, the giving of more than nominal weight to the acreage factor is necessarily a violation of the first paragraph of Section 12; it is equivalent to the giving of a minimum allowable to all wells and may be authorized by the fourth paragraph of Section 12.

The wells that would be increased by Sections 9(a) and 9(b) of Hobbs Order No. 329 are in the Southeastern portion of the field where the porosity and permeability, the thickness of the pay and the bottom hole pressure is the smallest. It is an inexorable law of physics that when two bodies are connected and the space partially filled with a fluid, if the pressure at the two ends is unequal, the fluid would be driven by the higher pressure from the high pressure area to the low pressure area. In the Northern and Western part of the Hobbs field, where the porosity and permeability

are greater, where there is a greater thickness of pay and a higher bottom hole pressure, but one result can be reached where the withdrawals in all portions of the field are the same, the higher pressure and the greater accumulation of oil will be driven to the points where there is less oil and less pressure. There is no possible way to avoid this conclusion; it is a law of physics that anyone can demonstrate to his own satisfaction.

The first result therefore by increasing the acreage factor is to force the oil from the land under which it is located and under higher pressure to the low pressure areas and the recoverable oil under the high pressure areas is not allowed to the owner of such land, but a certain percentage of it is necessarily forced to seek the low pressure areas.

In addition to that, the larger allowable to the low pressure areas would in any event result in a rapid decline of pressures and to that extent the reservoir energy has been displaced and those with wells more favorably situated will not receive their just and equitable share of the reservoir energy.

By increasing the allowable to wells of low bottom hole pressure there will result a certain amount of gas coming out of solution which will further increase the gas-oil ratio and result in physical waste, not only depriving the entire field of the maximum reservoir energy, but penalizing those having wells more favorably situated. Another result of a large allowable to acreage is that the gas coming out of solution reduces the energy available to move oil to the wells which in turn will reduce the ultimate recovery of the pool:

The evidence on behalf of the Gulf Oil Corporation showed there had already been a large movement of the oil from the high pressure and more favorably located areas to the wells that will benefit by Sections 9(a) and 9(b) of Hobbs Order No. 329, and the movement will be increased by the enlargement of the acreage factor and the decrease of other factors.

It seems to us that the Commission before it is justified in making an order should determine the thickness of the producing horizon in the various parts of the field, the porosity and permeability, and the bottom hole pressure and from that form some conclusion as to the recoverable oil in the pool and in the various subdivisions thereof, and some method should then be determined by which there would be no movement of the oil from well-located properties to wells on properties not so favorably situated, and make the allowable so as to permit each owner to secure his proportionate part of the recoverable oil and use his just and equitable share of the reservoir energy.

The acreage factor does not form a part of the method provided in the law for determining allocation and cannot be taken into consideration. An order based on acreage is necessarily unauthorized. There might be instances, as outlined in an earlier portion of this application, where an acreage allocation or allowable would not be unjust - such could exist in an ideal pool only where all conditions are equal; however, when you place in an allowable order a distribution of any part of the oil upon an unauthorized element that does not take into consideration any of the well-known factors governing the accumulation and production of oil, except where the acreage factor is placed in the order to give each well a minimum allowable, the action is unauthorized by the laws of the State of New Mexico.

There was no evidence introduced at the hearing that pointed to an 80% acreage and a 20% bottom hole pressure division. The proponents of the change insist that acreage should be the determining factor and introduced no evidence supporting an optional plan. The evidence on behalf of Gulf Oil Corporation and others sharing its views was to the effect that the acreage factor should be constantly decreased and the bottom hole pressure factor increased and that the allocation should be made in strict conformity with Section 12 of the Laws of New Mexico 1935.

It is impossible and impracticable to discuss all of the evidence that was introduced. We think it sufficient to point out the order that has been entered does not reflect the authority granted to the Commission

and that the mere amendment of Section 9 of Order 48 of the previous Hobbs Order will not afford the authority for the well owners to determine their allowable.

For the foregoing reasons, the Gulf Oil Corporation and those sharing its views, request Hobbs Order No. 329 be reconsidered, that findings be made by the Commission upon which the Order can be based under Section 12, Laws of New Mexico 1935, and that the enforcement of Hobbs Order No. 329 be suspended until a rehearing and reconsideration of the case can be had, and, in any event, the Order be held in abeyance until machinery has been provided by which the provisions of Sections 9(a) and 9(b) can be put into practice.

Respectfully submitted,

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