FORM 1020 1-51

for Case 330 File

STANOLIND OIL AND GAS COMPANY

OIL AND GAS BUILDING

FORT WORTH, TEXAS

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DIVISION ATTORNEY

July 6, 1954

Statement of Stanolind Oil and Gas Company
In re: Gas Proration - Blanco-Mesa Verde Pool - Case Nos. 330 and 330-A.

Oil Conservation Commission
of the State of New Mexico
Santa Fe, New Mexico

Attention: Mr. R. R. Spurrier, Secretary

Gentlemen:

In accordance with the suggestion of the Commission, we are submitting herein a written statement with reference to the proration of gas and the allocation factors to be used in the Blanco-Mesa Verde Pool.

It appears that all parties interested in the proceedings assume the necessity for gas proration in the Blanco-Mesa Verde Pool, and the evidence in the record supports such position. The difficulty appears to lie altogether in the proper manner of allocating the gas to be prorated.

For consideration at this time by the Commission is the propriety of the size of the proration unit for the Blanco-Mesa Verde Pool. In Case No. 317, Order R-110, promulgated November 9, 1951, the Commission established the size of the proration unit for the Blanco-Mesa Verde Pool as consisting of 320 acres, or a legal United States General Land Office survey half-section following the usual legal subdivision of such Land Office survey and permitting also exceptions for contiguous tracts of approximately 320 acres following regular Land Office subdivision. Testimony at the Hearing just concluded supported the efficient and economic drainage area of 320 acres, and the suggestion was made that tolerance be permitted without penalty or bonus in those instances

where the number of acres included within the proration unit does not exceed 325 acres and is not less than 315 acres. No contest of this suggestion appears to have been made at the Hearing.

Another factor to be considered by the Commission is the establishment of balancing periods and the establishment also of the respective dates for each balancing period. So far as Stanolind Oil and Gas Company is concerned, this matter appears to be primarily of interest to the purchasing companies, and we have no comment to make with reference thereto. However, your attention is directed to Section 12 (c) of the Act of 1949, Chapter 168, relating to the conservation of oil and gas, which provides that the Commission shall fix proration periods of not less than six months.

As stated heretofore, the primary controversy appears to be centered around the proper allocation formula to be used by the Commission. The recommendations made by several of the companies appear to vary from allocation based entirely upon acreage, to allocation based upon acreage times deliverability. Some evidence was submitted recommending both minimum and maximum allowables. The latter recommendation appears to be inconsistent with the positions taken by the companies supporting an allocation formula which includes a deliverability factor. The varying positions taken by certain of the companies may be briefly stated as follows:

Skelly Oil Company took the position that the allocation should be based entirely upon acreage; injecting, however, the recommendation that bottom hole pressures be used as the factor in permitting variance of allowables between wells. Skelly's approach is essentially negative, in that attempt was made to establish that disparity of reserves in the field could not possibly be as high as the range in deliverabilities, and that allowance of a variable factor based upon bottom hole pressures would permit some variation but would not be as high as the variance indicated by use of deliverability

as the sole variable factor. According to their testimony, allocation on the basis of bottom hole pressures would permit a variance on the order of 1.84 to 1. Other testimony in the record indicates that such a formula does not do justice to known disparity in reserves between the respective proration units.

At this point, the Commission's attention is directed to Section 13 (a) of the Act of 1949, Chapter 168, as amended, which requires that proration be established on a basis of recoverable reserves. It is obvious that a proration unit which has no well upon it should not be assigned an allowable. It is equally obvious that ability to deliver gas is a factor which the Legislature had in mind in making a determination with respect to the allocation formula to be used by the Commission. On this question, Section 12 (c) of the 1949 Act specifies that the Commission may give equitable consideration to acreage, pressure, open flow, porosity, permeability, deliverability and quality of gas, and to such other pertinent factors as may from time to time exist. It is significant that thickness of sand is not specifically named. Applying the rule of "ejusdem generis" it appears to be quite clear that the Legislature intended that proration should be primarily controlled by the ability of a well to deliver gas. Testimony was in conflict with respect to whether or not the deliverability of a well had any relation to recoverable reserves. This argument appears to be foreclosed by the specific direction contained in Section 12 (c) of the 1949 Act. Furthermore, I believe it can be stated definitely, that gas in place as measured by sand thickness has only indirect relationship to recoverable reserves. Thus, sand thickness and testimony based thereon should not be considered by the Commission unless such testimony is tied in with the ability to recover the gas from the sand. Bottom hole pressures are a function primarily of gas in place; thus, the use of bottom hole pressures as of a given date, without comparison to some other date and some other pressure is not

significant with respect to the amount of recoverable reserves that can be obtained.

Pubco Development Corporation took the position that the allocation factor should be based on 100% deliverability times acreage. Its testimony was directed to the proposition that the Blanco-Mesa Verde reservoir was not a homogeneous mass, but was composed of various lenticular sands, and that there was communication between proration units with respect to certain of the sands but that there were no uniform stringers or lenses to be observed throughout the entire field. The effect of the testimony was to indicate impairment of the free flow of gas across the field, and that the drainage from one unit to another would be impeded because of lack of direct communication. By pyramiding variable factors which were stated to exist in the field, including variances in sand thickness, porosity, connate water saturation, and initial bottom hole pressures, Pubco contended that reserves for individual wells drilled in the pool could vary as much as 46.4 to 1. The effect of this testimony was to support deliverability as the sole variable factor to be considered by the Commission in establishing its allocation of gas. Further testimony was advanced by Pubco Development Corporation that initial variances in potential throughout the field was on the order of 33 to 1, which was well within the maximum possible variation of 43.4 to 1 as stated previously. Although this approach is also negative, in that the possibility of larger differentials in recoverable reserves justifies a proration formula based on initial potential and deliverability since it was demonstrated that such latter differential would be less than the possibility, this approach appears to be more logical than a position which would limit the differential in allowables to one factor only, namely, thickness of gross or net pay. Pubco recommended that the allocation formula be based entirely upon deliverability of the well against the acreage factor.

Phillips Petroleum Company took essentially the same position as Skelly Oil Company; advancing, however, an allocation factor of acreage times 75% acreage plus

25% deliverability. Testimony was advanced that the maximum differential net pay sand thickness was on the order of 3.55 to 1, and that any allocation formula which would permit a well to produce over 3½ times the production of any other commercial well in the field would inevitably result in impairing correlative rights. The selection by Phillips of a deliverability factor in the recommended allocation formula was in direct conflict to the testimony of its witnesses who stated unequivocally that deliverability had no relation to reserves. In addition to being contrary to Statutory requirements, Phillips position is inconsistent, in that it first rejects deliverability as a factor to be considered by the Commission then injects a low deliverability factor for purposes of adjustment between wells purely because of expediency. Phillips recognizes that reserves can vary from well to well, but does not by affirmative testimony attempt to support any basis for allocation from well to well except that of deliverability. It could well be argued, based on testimony advanced by Phillips, which was purely negative, that the Commission could easily assign allowables based upon the current market quotation of the Company's stock provided such allowable did not exceed the maximum ratio of 3.55 to 1. Furthermore, examination of Phillips' own exhibits (Phillips Exhibits 3 and 7) and the admission of its own witness, clearly indicates that the recommendation of 75% acreage plus 25% deliverability times acreage would discriminate in favor of the weaker wells in the field insofar as 97% of the wells in the field are concerned. Using Phillips own exhibits again, and testimony of its witness, we find that use of 50% acreage plus 50% deliverability times acreage again results in discrimination among 97% of the wells in the field. In this connection your attention is directed to the testimony of Mr. Cullender, during the course of which he testified that the use of the formula based on 25% acreage plus 75% deliverability times acreage, would result in a disparity of something less than 6 to 1 for 97% of the wells. In this connection attention is directed to the testimony placed in the record by the Commission's witness to the effect that based on

thickness alone you could have a disparity of as much as 5½ to 1. Each of the Commission's witnesses testified that the approach they took was on the most conservative basis. The Commission should bear in mind that in allocating the gas to be produced the Commission should not utilize the most conservative basis for the establishment of recoverable reserves, but should attempt to give full weight to all factors which are known to exist so as to allocate the gas upon as fair a basis as possible. Thus, some weight, of necessity, must be given to the known variances in permeability, connate water saturation, and porosity, all of which must be taken into consideration in determining the amount of recoverable reserves. In my opinion, the testimony in the record sustains a differential well in excess of 10 to 1 throughout the entire pool. It, therefore, appears to me that based upon Phillips own testimony that the minimum allowance for deliverability should be on the order of 75% deliverability times acreage plus 25% acreage.

El Paso Natural Gas Company took the position that there was a direct relationship between the initial potential of the well and the net effective pay. So far as we can ascertain, from the record made before the Commission, this testimony is the only testimony which affirmatively establishes a connection between recoverable reserves and an allocation formula. The testimony supports the validity of an order of the Commission which will establish the variances in allowables based upon initial potential followed by deliverability tests. El Paso recommended that the allowable be based upon 75% deliverability times acreage plus 25% acreage. It is our opinion that the only order which the Commission may enter which will be supported by substantial evidence is an order which will give full weight to deliverability. Stanolind Oil and Gas Company supports the position taken by El Paso that the allocation of gas should be on a basis of 100% deliverability times acreage. [illegible]

Southern Union Gas Company took the position that the allocation formula should be on the basis of 50% deliverability times acreage plus 50% acreage. Cross examination developed, however, that Southern Union's investigation and testimony was based entirely upon reserves in place. Because of the statement by the witness for Southern Union that if the Commission is required to allocate gas based on recoverable reserves that such requirement would alter his conclusions, it is my opinion that the Commission is required to disregard all of the testimony advanced by Southern Union Gas Company. However, it may be stated that Southern Union's position was essentially that of Skelly and Phillips, in that it recommended that the Commission utilize arbitrary factors which would result in a differential lower than that considered by each of the companies to represent the variances in reserves in place. The comments heretofore made, therefore, with respect to this negative approach would apply also to the position taken by Southern Union.

Southern Union recommended, also, that the Commission consider the imposition of maximum and minimum allowables. We should like to join with Southern Union with respect to the imposition of a minimum allowable, but suggest to the Commission that the minimum allowable should take into consideration economic factors relating to continued profitable operations. The question of incentive discussed by Southern Union's witness does not appear to be a matter which should concern the Commission in that we do not believe that any person would drill a gas well just for the purpose of acquiring a minimum allowable with a payout of six years. It appears that the net effect of arguing for minimum allowables from the standpoint of incentive is to place the Commission in the position of insuring profitable operations, including drilling. In this connection, Section 13 (d) of the 1949 Act stresses continued operation and premature abandonment as the criteria to be followed by the Commission.

With respect to maximum allowables it is our feeling that such recommendation be disregarded by the Commission as unduly hampering the delivery of gas, and on the testimony before the Commission in this case would of necessity be arbitrary. Certainly the selection of a six-year payout figure is arbitrary and has no reasonable relationship to whether or not a person would or would not drill a well or would or would not continue to operate the well. However, if the Commission feels that the record as made reflects a need to limit the few wells in the field which show a great disparity from the average, either because of a belief that the deliverability tests are not accurate or because of the belief that the tests do not truly represent the correct disparity in recoverable reserves, then the maximum allowable could possibly be supported by the record, but it would not be supported at the 2½ million cubic feet per day recommended by Southern Union. Furthermore, it is our considered opinion that the imposition of a maximum allowable would require that the maximum be flexible and bear some relationship to the total allowables granted for the entire field; otherwise, its imposition defeats the entire purpose of allocating gas so as to supply the market and so as to give effect to the recoverable reserves in the field.

If the Commission should determine that maximum allowables should be imposed, it is our considered opinion that the use of any allocation formula between proration units other than of 100% deliverability times acreage would be arbitrary and capricious. The record does not indicate that any substantial number of wells have such a great disparity in deliverability from the average so as to materially affect the total quantity of gas to be produced by such high productive wells. If a maximum allowable is imposed, then in order to give proportionate adjustments among the wells in the field the formula would require the use of 100% deliverability as a factor, after the top productive wells have been so limited.

In conclusion, it is our recommendation that the Commission adopt the only formula supported by the evidence in the record, namely, 100% deliverability times acreage. This position is the one taken by Stanolind Oil and Gas Company at the time this matter was first heard by the Commission, and we have seen no evidence and know of no evidence which has altered the conclusion made at that time. Commenting briefly upon the concession made by El Paso, that they would accept a formula of 75% deliverability times acreage plus 25% acreage, I consider that such concession is purely in the nature of compromise, and is not supported by the record. Although we are interested in maintaining a fair and consistent position before the Commission, we cannot in the face of the record recommend the adoption of any formula other than 100% deliverability times acreage.

We are attaching a copy of proposed Rules for your consideration.

Respectfully submitted,

James K. Smith

JAMES K. SMITH
Division Attorney
STANOLIND OIL AND GAS COMPANY

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