State of New Mexico
Oil Conservation Commission

1000 RIO BRAZOS ROAD
AZTEC

April 5, 1962

Mr. A. L. Porter
Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Re: Case #2515

Dear Pete:

Since our telephone conversation regarding the above case we have discussed the problem posed by the above case and attempted to come up with some ideas. I'm sure I don't have to remind you that the general problem of oil wells in gas pools and vice versa is probably one of the most difficult problems with which the Commission is faced. So if my recommendations seem to be rather confused and groping, I am sure you'll understand that the reason comes from having explored a great number of proposed approaches and discovered that there seems to be no perfect solution.

I am certain that there is a pressing need for devising some method by which we can get Dakota oil out of the ground in areas where it is discovered. It is there and we need it and it should be produced, as we are not currently meeting oil demand in this area. The problem, of course, arises from the fact that this oil is within the vertical limits, and, at least within the well bore, in communication with, the Basin Dakota gas pool. So in order to protect rights of gas wells offsetting oil wells it is necessary to relate gas takes from oil wells to gas takes from gas wells. There seems to be a lot of operator opposition to any rule which, through re-classification of individual wells to oil wells, would set up a spacing and proration pattern on less than 320 acres. From the present quality of Dakota oil production I am inclined to agree. It has also been found that some wells which produce as oil wells initially taper off on oil production while the GOR's increase. This probably happens because one particular sand within a well's pay section is producing oil and little gas while most of the other pay section is producing gas and little oil. So at this time I would recommend that we keep drilling units on 320 acres on all Basin Dakota wells, regardless of individual well characteristics. The critical problem involved is how to assign gas allowables. At the present, certainly, the assignment of an oil allowable is not critical, as we have no Dakota oil wells capable of making top oil allowable on even an 80 acre basis. If we use a limiting gas-oil ratio to establish gas production and leave oil wells on a 320-acre proration basis, it would probably require lowering the limiting gas-oil

ratio to around 500 to 1 to keep casinghead takes comparable with dry gas takes. Gas purchasers oppose this method because the takes are not related to gas market demand.

It is not possible to establish gas allowables on wells making large amounts of oil on a deliverability basis calculated from the well's deliverability test because the well's producing characteristics makes it impossible to secure a reliable test.

When I first read D.W. Falls' application, I thought it sounded a little wild. However after studying it in the light of all the problems involved, I believe their plan has merit, not only as a solution to their problem, but as a solution to the problems in the whole field. Assigning an average pool deliverability for purposes of calculating allowables would relate gas takes to dry gas wells and would make casinghead gas takes subject to market demand. No doubt there are those who will argue that an average from the entire pool is too broad an average, but I believe that a pool average would be fair. If we attempt to limit the number of wells to be averaged to nearby wells, then the question arises as to how many wells to use and which ones should be used. From an administrative standpoint a pool average would also be preferable as pool totals are available each time the proration schedule is calculated.

I have discussed this problem on a field-wide basis for the reason that I think it may probably be necessary for the Commission to come up with a solution on a field-wide basis. I realize that there are other problems connected with it which might cause trouble, such as the possible discovery of high potential oil wells. This might necessitate limiting oil allowables on something other than the acreage basis, as a 320-acre oil allowable would be a sizeable allowable and might not be desirable from either a waste or correlative rights standpoint. Depending upon future development it might even become necessary and possible to segregate some areas from the Basin Dakota Pool and define them as oil pools. But we certainly haven't reached this stage of development as yet.

To get back to case 2515, I recommend that application be approved and that the well be prorated on the gas schedule using an average deliverability from all other Basin Dakota gas wells. We have checked the allowable schedule for the last 15 months and found that the average allowable calculated in this way would be slightly in excess of 12,000 MCF per month. This is about 400 MCF per day, which seems to me to be a reasonable figure. This will at least allow them to produce the well to see how it is going to perform. If it later develops that the well goes to gas and the oil drops off we can always call for a deliverability test and prorate it in the regular way. It might be a good idea to stipulate this in the order.

We will no doubt be discussing the problem from time to time.

Yours very truly

Emery C. Arnold
Supervisor, District #3

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