BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 5, 1964

EXAMINER HEARING

IN THE MATTER OF: Case No. 2575 being reopened pursuant to the provisions of Order No. R-2267-A, which order continued for another year the temporary rules set out in Order No. R-2267 establishing 80-acre oil proration units and 320-acre gas proration units for the Lybrook-Gallup Oil Pool, Rio Arriba County, New Mexico. All interested parties may appear and show cause why said pool should not be developed on 160-acre gas proration units and 40-acre oil proration units.

Case No. 2575

BEFORE: ELVIS A. UTZ, EXAMINER

TRANSCRIPT OF HEARING

MR. UTZ: Case 2575.

MR. DURRETT: In the matter of Case No. 2575 being reopened pursuant to the provisions of Order No. R-2267-A, which order continued for another year the temporary rules set out in Order No. R-2267 establishing 80-acre oil proration units and 320-acre gas proration units for the Lybrook-Gallup Oil Pool, Rio Arriba County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox, Santa Fe, representing the applicant. We have one witness.

(Witness sworn.)

LEWIS C. JAMESON

called as a witness, having been first duly sworn on oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Lewis C. Jameson.

Q By whom are you employed and in what position?

A I am employed by Val R. Reese & Associates, Inc. in Albuquerque, New Mexico as a geologist and I'm Vice President of the company.

Q Have you testified before the Oil Conservation Commission as an expert witness and made your qualifications a matter of record?

A Yes, I have. I testified in the original hearing in 1962 on this case which resulted in the Order No. R-2267 which established the temporary rules for this Pool. I also testified one year ago when the hearing was reopened.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. UTZ: Yes, they are.

Q (By Mr. Kellahin) It's my understanding that you are representing in this case both Val R. Reese & Associates and Bco, Inc., is that correct?

A Yes, that is correct. Of the 2400 acres within the limits of the Lybrook-Gallup Oil Pool, Val R. Reese & Associates, Inc. owns, or controls, 800 acres and owns a 40% working interest under an additional 560 acres. The remaining 60% working interest as well as 100% working interest and an additional 80 acres is owned by Mr. Harry L. Bigbee and his associates and is operated by Bco, Inc. Together the two companies operate 6 of the 10 wells in the field.

Q What is the recommendation of the parties you represent regarding the continuation of the Pool rules which have been in effect in the Lybrook-Gallup Oil Pool for the past two years?

A It is our recommendation to the Commission that the rules be continued in effect on a permanent basis.

Q The notice of the reopening mentions 40 acre spacing

for oil wells and 160 acre spacing for gas wells. How do you feel this would effect the Pool?

A It is felt that the establishment of smaller spacing would result in waste and violation of correlative rights as was discussed in the hearing one year ago, the prime consideration in this matter is not the increased allowable which results from the wider spacing; there's not a well in the field that would be curtailed under a 160 acre gas spacing or under a 40 acre spacing for oil wells. It has never been felt that the allowable in this area should be a consideration for a request for wider spacing. The protection of correlative rights and the prevention of waste whould be the consideration. Of prime importance is to have a wide enough spacing to protect the operator from having to drill unnecessary wells and to prevent operating wells being drilled so close to his existing wells that his decline curve is altered to the point of making him lose money on the wells that he has already drilled. This area is a marginal area and the decline on the outlying wells is not as steep as is the decline on the wells where the drilling has been more dense. The wider spacing that has been in effect in this area for the past two years and which is included in the permanent order on the Escrito-Gallup Oil Pool to the north is very drastically needed to keep this too close spacing from making the entire area completely unprofitable. If a promoter

should drill a well in this area on 40 acre spacing adjacent to one of our existing wells, our decline will increase to the point where the well will lose money. A developed area that is made unprofitable as would be the case with too close a spacing takes away money that under proper spacing might be available for additional development of outlying areas and the discovery of new reserves. It is not our intent to prevent the drilling of additional wells. Additional wells drilled in the area might discover a more prolific trend within this sand bar. All we ask is that the additional drilling be done on 80 acres instead of on 40. We can then expect to possibly have a small amount of money of our own returned from these wells that we've already drilled in the Pool to put back into other development. It is our feeling that it is not small spacing that promotes additional drilling. Instead, it's good economics.

Q Would wider spacing and its resulting higher allowable help promote additional drilling in another way?

A Yes, in the drilling of outlying areas there is always a possibility of obtaining a well that will be capable of a high rate of production. There's no doubt but the possibility of a higher allowable that would result in a faster payout would make the drilling of outlying areas much more attractive, particularily in a marginal area such as this, than if the incentive were removed.

MR. KELLAHIN: Mr. Examiner, this being a continuation or a reopening of the prior case, can we assume that the record of both the prior hearings will be a part of the proceedings here or should they be offered in evidence?

MR. UTZ: Offer them in evidence if you care to, but I'm sure they'll be considered in a decision in this case.

MR. DURRETT: They are a part of the case, as the case is reopened we consider it all one case, just being reopened on various occasions.

MR. KELLAHIN: I wanted to be sure that the record is before the Commission in this case because we do of necessity make reference to it.

Q (By Mr. Kellahin) You mentioned a steeper decline that is evidenced by wells where the drilling is more dense as compared to wells on the outlying edge of the development. This was discussed at a previous hearing, I believe, and has this trend continued over the past year?

A Yes, the difference is particularly evident between the 2-4 Campos well with a decline of approximately 7% per year. This well is on the extreme northwestern portion of the field and between the 1-11 VanDenburgh well with an annual decline of 11%. At this time the difference is obscured in the 1-10 Campos well because of pump trouble during the early part of the year. The result was that there were several months where

there was very little or no production, and then in the following two or three months, the accumulation of oil was produced and it seems actually that the well has not declined, however we don't expect that to continue for very long.

Q You consider that an abnormal situation as to that particular well, is that correct?

A Yes. There was the same type decline evidenced between the 1-10 Campos and the 2-4 Campos at the time of the past hearing and at this time the production has actually increased over the past two or three months over what it was, say, during November and December this past year, and that is an abnormal condition.

Q Now, Mr. Jameson, would you briefly review the exhibits that were offered at the previous hearings in this case?

A My Exhibit No. 1 in both of the previous hearings was an area map that showed the Lybrook-Gallup Oil Pool and it's relationship to the Escrito-Gallup Oil Pool to the north. Development in both Pools is from lenticular sands of the Gallup formation. Both Pools produce from the same interval within the Gallup. The area maps show the producing wells, the initial potential of the wells is given. Study has been made of the cored wells in the area and these wells are shown by triangular symbols around the well symbol on the area maps.

Q That was offered as Exhibit No. 1 in the original hearing in 1962. How was it revised for the hearing in 1963?

A For the hearing one year ago, the map was up-dated by the addition of the Dorfman 1-32, that should be 1-32 State well located in Section 32 of township 24, north range, 7 west, and the Warner #1 State well drilled in Section 36 of the same township. These wells were both drilled in the area between the Lybrook-Gallup and the Escrito-Gallup Pools.

Q What was the present rate of production for these two wells?

A Both of these wells have continued production at a very nice rate. The Dorfman well is presently producing around 500 barrels per month and the Warner well is producing 120 barrels and 4,000 Mcf per month. As was pointed out in the previous hearing, the Warner well is being produced into the Southern Union 500 psi line without the benefit of compression and this is quite a bit to ask of an edge well and there's no doubt but what both the oil and gas production, and in particular the oil production could be increased by allowing the well to produce against a lower pressure.

Q These two wells are in the area that in the original hearing that was between two Pools that were barren of any production?

A Yes. The Warner #1 State extended the southern

boundary of the Escrito Oil Pool one-quarter mile to the south and the Dorfman 1-32 State well was on a trend midway between the two Pools.

Q Has there been any additional development in the area since the hearing in 1963?

A No. The area map submitted as an exhibit in the last hearing shows all of the development. There has, however, been a rather large increase in production recently obtained in our #3-29 Connie well located in Section 29 of township 24, north range, 7 west. This well was on a pump at the time of the last hearing and we were producing it at a rate of approximately 80 barrels per month. There were some months that we didn't get even this much out of the well and we have recently removed the pump and have operated the well on a intermitter with a piston and we are still obtaining a production rate of 14 to 16 barrels per day after slightly less than a month. Approximately three weeks.

Q Referring back to the two wells that were drilled between the two Pools, what is the significance of production in this area?

A This production continues our belief that the subsequent development in this area will result in the joining of the two areas. The Dorfman well is producing at a rate exceeding that of all but two of the ten wells in the Lybrook-Gallup Oil

Pool. We believe that other wells will be developed in this area and we have already approached the volume shown in the Dorfman well in our 3-29 Connie well.

Q Do any of your previous exhibits support the belief that future development may join the two Pools?

A Yes, my exhibit Number 2 in the June, 1962 hearing was a South to North cross section between the two Pools. Three wells in the Lybrook-Gallup Oil Pool and three wells in the Escrito-Gallup Oil Pool were included on the cross section. The datum for the cross section was a marker bed within the Gallup formation. The perforations on all of the wells were shown in the center bore of the log section and the main productive sand in the Lybrook and Escrito Pools was shown by the sandstone dot symbol. The heavy dashed vertical lines in the central portion of the cross section represented the boundary of the Lybrook-Gallup Pool and the boundary of the Escrito-Gallup Pool. The cross section shows that the productive sand interval is continuous between the two areas. Within this productive sand interval occurs a series of lenticular sands that exhibit an increase in porosity and permeability. Several of these sands may be encountered in the same well. Fluids within these sands are in communication, and the edges of the various bars do not represent barriers. In fact, I know of at least three distinctly different sand bars within the Escrito-

Gallup Oil Pool itself and they are undoubtedly smaller ones.

Q Were there any additional exhibits presented at the prior hearings, Mr. Jameson?

A Yes, also at the original hearing an exhibit was made showing the well completion dates and initial potentials and year of first production, the gas oil ratio and the cumulative production to the date of the hearing in this area.

Q Have you prepared a new exhibit of the well production in the Pool?

A Entered as an exhibit one year ago was a tabulation of the production information cumulative to 5/1/62 together with the year that ended 5/1/63 production information, and then this exhibit also gave the cumulative production to 5/1/63. This exhibit has simply been up-dated by the addition of the past year's production and the recomputation of the cumulative production.

Q Would you have that marked as an exhibit, please.

(Whereupon, Applicant's Exhibits No. 1, 2, and 3C marked for identification.)

Q Mr. Jameson, referring your attention to what has been marked as Exhibit 1-C, is that the exhibit showing the production information as outlined by you?

A Yes, it is. Let me give the comparison of production figures for the year 5/1/62 to 5/1/63, as compared to 5/1/63

to 5/1/64. Two years ago the production totaled 35,259 barrels and 420,747 Mcf. During the past year the production from the same wells totaled 29,382 barrels and 316,982 Mcf. It should also be pointed out as was done in the previous hearing that there is also some gas production that's reported as too small to measure that is not included in these figures.

Q Then there has been a steady decline in the productivity of the Lybrook-Gallup Oil Pool, has there not?

A Yes, that is correct.

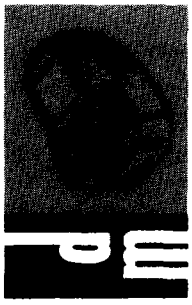
Q Would you anticipate that this decline will continue in the future?

A Yes, I'm sure that it will.

Q You previously stated that the area is one of marginal economics; have you prepared an exhibit relating to the economics of an oil well in the Pool at this time?

A Yes, my Exhibit 2-C that has just been passed out is such an exhibit. It simply takes the best well production in the field at present and applies it as would be the case in additional wells drilled adjacent to these existing wells at this time. It's very unlikely that an additional well drilled as an off-set to these present wells would produce an excess of the production that is presently being obtained from the very best well in the field. If it did so, it would simply be flush production which would last for a month or two. I have

used a net to working interest of 82.5% in this computation although several wells in the field would have a 75% lease net to the working interest and there's one well that has only a 70% net to working interest lease. Also used in the computation are the production taxes in effect at the present time. The gross value of the oil in this area is $2.75 per barrel, and this is reduced to $1.85 per barrel to the working interest after deduction of taxes and 35¢ per barrel transportation expenses. On this basis, the working interest value of present production would be $1,202 per month. The operating expenses, excluding depreciation and depletion for maintaining a pumping well in this area are shown by both the expense of our Company and the expense of Bco, Inc. to be $300 per month. The net working interest of all of the present production is therefore $902 per month. Although some of the initial wells in the area cost greatly in excess of the $80,000 that's used on this tabulation as an average well cost, additional wells drilled in the area now should be able to be completed by pumping equipment for this figure. A decline in annual production of 11% was used and was the figure as experienced in the 1-11 VanDenburgh well where development has been rather close. On wells further removed from other completions such as the 2-4 Campos, the decline seems to be at a rate of 7% per year. Although as will be noted on the previous exhibit, the 2-4



Campos well actually produced more oil during the past year than it did from May 1st, 1962 to May 1st, 1963. The production decline was applied to the working interest value for a 12 year period. After the 12 years, the expense for maintaining a pumping well exceeded the working interest value and the well was uneconomical. From the working interest value was deducted the operating expenses to obtain the next column, the net working interest value. To these figures for each year was then applied a present value discount factor of 6% per year to determine the present value of future production from the well such as we are discussing, the total present value up to the economic limit from such a well would be $45,432. I believe that's all I had in regard to this exhibit.

Q Have there been any interference tests made to substantiate the contention that one well will drain more than 40 acres?

A No. There haven't been any interference tests made. As will be noted on the area map, the ownership throughout this field alternates between different companies and there is no place in the field where one company could make such a test on it's own wells. In any event, in a Pool of this size and of such marginal economics it would be an extreme hardship on any operator to shut in a well for a time sufficient to obtain this type of information.

Q In that connection, would a well shut in for the purpose of testing be able to make up any back allowable that might be assigned to it?

A No, none of these wells can make the top unit allowable and it would not have an opportunity of making up such lost production.

Q Could the allowable be transferred from a shut in well to a producing well for the purposes of a test?

A No, it could not, for the same reason.

Q So, economically it's not feasible to make an interference test at this time?

A No, it is not.

Q Would you continue then as to other criteria for establishing drainage in excess of 40 acres in the absence of this kind of test?

A Well, one such criteria would be the previously mentioned difference in decline rates between outlying wells and more closely spaced wells and also a criteria would be a difference in productive characteristics as it exists in the field. Of course this is something that you notice by day to day association to the wells, and it's not such an analytical analysis of something that you can put down in numbers on paper. The evidence of the nature of difference in decline rates is definitely present in this area although it is not as dramatic

as was the same type evidence in the Escrito Pool where the Standard 1-3-20 well in Section 20, Township 24 North Range, 7 West produced at one decline up to the time of drilling of three top unit allowable offsets on 40 acre spacing, at which time it assumed a different and much steeper rate of decline. This steeper decline was continued until the well's subsequent abandonment.

Q Referring you to Exhibit Number 3-C, does that depict the situation in the Standard 1-3-20 well?

A Yes. Exhibit 3-C is a Photostat of my work papers that were used to obtain our Exhibit Number 7 that was originally presented in the de novo hearing on Case Number 2089 that established spacing for the Escrito-Gallup Oil Pool to the north. The decline from June, 1958, up to April, 1960, was on a rather gentle slope on the scale that I used in my exhibit; it was actually 8 degrees to the horizon. At this time the effect of the Campos #1-16 and the Dorfman #1 Judy well was shown. These wells went on production in February, 1960, the decline beginning in April, 1960, to the time the well was abandoned on the same scale was at an angle of 38 degrees to the horizon.

Q Would that indicate that that particular well felt the influence of offset production within two months?

A Yes. That is definitely indicated.

Q That is in the Escrito-Gallup Pool, is it not?

A Yes, it is.

Q In your opinion would the same situation exist in the Lybrook-Gallup Pool?

A Yes. I believe that the difference in decline rates shown by the decline curves between the closer spaced wells and the wells in areas of more wider spacing definitely shows the same type influence. However, as mentioned, it is not as dramatic in that we haven't yet harmed any wells.

Q Now, would the establishment of 40 acre oil spacing and 160 acre gas spacing in any way conceivably force the operators to make communication and tests?

A There's no well in this Pool capable of producing the top unit allowable under even the smaller spacing. Since there would be no loss of allowable under the smaller spacing, an additional incentive for interference tests would not be present if the area was forced on to smaller spacing.

Q For the benefit of the Examiner, would you summarize your reasons for at this time requesting 80 acre spacing for oil wells and 320 acre spacing for gas wells in the Lybrook-Gallup Pool?

A First of all, it's known that the closer spacing results in steeper decline and a steeper decline makes the entire area completely unprofitable and it necessitates early well

abandonment as was shown on the Standard 1-3-20 well in which production is plotted for Exhibit 3-C. Since the smaller spacing would make the area unprofitable, it would take money that might be available for additional development on outlying areas and subsequently the development of additional reserves. The wider spacing also creates an additional incentive for the development of new reserves because of the possibility of a prolific well obtaining a faster rate of payout. Also there is no evidence to indicate that the Lybrook-Gallup Oil Pool will not be connected by future drilling to the Escrito-Gallup Oil Pool. The cross section shows that the producing section occurs in the same position within the Gallup formation in the two areas. Core analyses in the two areas also compare very favorably in the porosities and water saturation and oil saturation. The characteristics of the producing wells in the two areas are the same. It is our belief that the adoption of other than 80 acre and 320 acre spacing on a permanent basis would eventually result in the different spacing being, in effect, within the same reservoir.

Q Is it your recommendation, Mr. Jameson, that the 80 acre spacing for oil and 320 acre spacing for gas be set up by order on a permanent basis?

A Yes. That is my recommendation.

Q Would any further information on this Pool be available

by a continuation of this case, say, for another period of one year?

A The operators in the field cannot justify the taking of interference tests. We would of course obtain an additional year's production, but this has been dragging on for sometime and in a marginal area such as this, it won't stand an annual trip to Santa Fe.

Q In your opinion then, would the adoption of 80 acre oil spacing and 320 acre spacing for gas by the Commission on a permanent basis result in the protection of correlative rights and prevention of waste?

A Yes, I believe that it will.

Q Were Exhibits 1-C, 2-C, and 3-C prepared by you or under your supervision?

A Yes, they were.

MR. KELLAHIN: I would like to offer in evidence Exhibits 1-C, 2-C and 3-C.

MR. UTZ: The exhibits mentioned will be entered into the record of this case.

(Whereupon, Applicant's Exhibits 1-C, 2-C and 3-C were received in evidence.)

MR. KELLAHIN: That's all I have on Direct Examination.

CROSS EXAMINATION

BY MR. UTZ:

Q In looking at your map which is Exhibit #1 in the previous case and in view of the fact that this still represents

the development in this Pool at the present time, it occurs to me that you are not even developing this Pool on 80 acre and 320 spacing. From the looks of the spacing here, it's even much wider than that. So, if you are not developing it on 80 acre and 320 acre, now why would you be compelled to develope it on 40 or 160?

A We're not worried about ourselves; we had our bitter experience up in the Escrito area where we offset the Standard 1 on the 320 well. We are worried about a promoter coming into the area and offsetting us on a promotional basis. When we offset the Standard well, the area was on 40 acre spacing. We had no engineering information on the field; we frankly didn't know that it would cause both the Standard wells and our own wells to assume a much steeper decline than would have been the case if we had spread our money around just a little bit. Spending the same amount of money, it's much better to develope a larger area in these type fields.

Q So, all you are really concerned about is somebody coming in and offsetting you on 40 acres?

A Yes. Like we and Dorfman and Campos did Standard of Texas up to the north.

Q That development won't do any more than it has in the past two years, then; it will probably never be known whether or not these two Pools are connected or not. As a matter of

fact, if they are connected, the area in between these Pools will never be drained anyway will it?

A Well, as shown by the Dorfman 1-32 State well, it's a better area out there than 8 out of the 10 wells in the Lybrook-Gallup Oil Pool. As far as we're concerned, the boundary of the Lybrook-Gallup Oil Pool to the north is simply an arbitrary line.

Q What kind of a well is this El Paso SAP well?

A That well was an old completion. It was drilled back in the time when there was nothing in the area but some very poor producers and some dry holes. That well is not much of a producer. Of course if we had worried a great deal about the older type completions in the area when we went into the area, neither the Escrito-Gallup Oil Pool nor the Lybrook-Gallup Oil Pool would have been developed at this time.

Q Are these wells able to sell all the oil they produce?

A Yes. We have no market problems.

Q Are the economics favorable or are you making money on 80 acre spacing?

A As shown by the exhibit on economics, it's very slim. Of course we used a rate of production which I have lent to the best well in the field at this time. We have in the past obtained higher rates of production from three of the wells and this has helped our economics being in the area from the first a great deal. We will eventually get our money back out of this

area on most of our wells if we're not forced into a steeper decline situation as was discussed.

Q If 80 acre drilling is a reasonable economic venture, why aren't people drilling on 80 acres then?

A Well, 12 years --

Q Actually you are drilling on 160 or better, so this economics is just a minimum that you would want. Actually your economics is on 160 or maybe 320 in some cases here.

A That's probably true. Of course we are not trying to establish drainage over a 320 acre spacing for a Gallup oil well. I doubt very seriously that it could do it. We simply want spacing sufficiently large to give us some protection from a steeper decline being established in the area that would make the entire area unprofitable. We own a great deal of additional acreage in the area. In fact, we have the lease directly to the east of this Pool and directly to the south of this Pool totaling over 5,000 acres and we do intend to develop it. It takes time for people to see that a sure thing on a 12 year payout is better than a wildcat where you might miss. We believe that we'll eventually get it developed.

Q So in the meantime you want 80 acre protection or economics in accordance with your Exhibit 2-C. It just about boils it down to that, doesn't it?

A Yes, that's our main concern in the area. We are

definitely not concerned with allowable.

Q I'm trying to visualize how your correlative rights are going to be protected on the wide spacing that you are now drilling on. Do you think that these wells are going to drain this kind of acreage?

A Well, I don't think that the 1-11 VanDenburgh would drain 640 acres and I wouldn't hesitate at all to recommend additional wells on Section 11, however, these people in this area need to get a little of this money back and then start spreading out a little bit, and there's no reason why the outlying areas that have been no drilling on them now won't be developed at a future date.

Q Is what you are saying by outlying areas, would you consider the north half of Section 11?

A Yes. I definitely would.

Q As being an outlying area?

A Yes. There's quite a lot of space between it and the Smith #1 State wells in Section 2. There's plenty of room for several wells.

Q But you have no intentions of drilling it and your people have no intentions of drilling it until they recover some of their present investment, is that about the size of it?

A They simply do not have the money and cannot borrow the money on their present production to do so. It will be

possible at a later date we believe.

Q These wells are what, around 6500 feet deep?

A Not quite that deep; roughly 5800 to 5900.

MR. UTZ: Less than 6000. Are there any other questions of the witness?

MR. DURRETT: I have a question, please.

MR. UTZ: Mr. Durrett.

Q (By Mr. Durrett) Mr. Jameson, I am correct that these special rules and regulations for the Lybrook-Gallup Oil Pool that you are asking to be continued do not prohibit drilling on less than 80 acres, is that correct?

A That's true. You can drill on each of your 40 acres. However, if 80 acre spacing is in effect in an area, someone new to the area is much less likely to make the mistake that we made to the north when 40 acre spacing was in effect.

Q You couldn't do it under the existing rules?

A That's very true. If he wanted to put two wells on the 80 acres, there's nothing in the rules to prohibit him from doing so.

Q I wonder how you would feel, that continuing these rules in effect would stop the offsetting problem that you feel you are faced with?

A I feel a lot of people in the oil field kind of

stumble around blindly; spacing was 40 up there in the north and we drilled on 40. I believe if the spacing is 40, you would think twice before going in and drilling two wells on an 80 acre tract.

Q If you got the same type of well you had been getting, it wouldn't bother your allowable any would it?

A No, it definitely wouldn't bother the allowable. Allowable isn't a concern here at all.

Q Now, speaking for a minute about the production decline that you were discussing. Did you state that there was a well offsetting it on a 40; a Standard well of some kind?

A Yes, that's up to the north in the Escrito field and it is discussed in the Case Number 2089 where our present Exhibit Number 3-C originated.

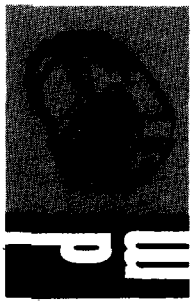
Q That's not in this Pool though, is it Mr. Jameson?

A That's very true. However, as I mentioned, the same type information is available on this Pool. It's just not as dramatic as exhibited by the Standard well.

Q We don't have any well in this Pool that's offset by a well that's on a 40?

A No, we haven't been hurt by drainage in this Pool yet.

Q I realize that you have figures that show the production



decline. Don't you feel that if you concluded from the figures that show that production on each well declines; if from that information you reach the conclusion that 40 acre spacing causes wells to decline, that you have to assume that the well will drain 80 acres with nothing to establish that assumption?

A Well,you assume that your drainage is coming from an area greater than 40 acres; how great, you don't know. I don't doubt that a well such as the 2-4 Campos is moving oil maybe for, oh, maybe as far as half a mile.

Q We don't know that do we? Do we have anything that causes us to believe that?

A We know it is draining in excess of 40 acres or, 40 acre spacing wouldn't change your decline curve as it was up to the north where we did have four wells drilled just as close to one common section corner as they could be.

Q Would you feel that if the wells are declining on 80 acre spacing then they're draining greater than 80 acres, and necessarily interfering with each other that's causing this decline, or they're not draining the 80 at all, they are just depleting it?

A I don't understand your question.

Q Well, they necessarily have to be draining; if they are declining on 80 acres, there's no 40 acre wells as such then, they are causing each other to decline; that's your

conclusion, isn't it, interference?

A Yes,there is some interference between the wells even where they are not on 80 acre spacing in the eastern part of the field, as Mr. Utz pointed out, we are not very densely drilled down there either, but we still have a steeper decline than we did have where we are even less densely drilled on the western portion of the field.

Q I think you will have this figure, or this information. What were the reserves under the discovery well that brought on the spacing in the original instance on 80 acres?

A The reserves in an area such as this is apparently anybody's guess. There are, as mentioned, several sand lenses occuring within the same well, and these sand lenses are of varying qualities. Therefore, you would expect each sand lens to have it's own percent of recoverable oil. In other words, the establishment of a percent of oil in a place that will eventually be recoverable oil is very difficult at best, and in an area where there are numerous sand lenses, it's practically impossible. We have, as shown on the cross section exhibit, perforations all up and down the well bore and I'm sure some of those little sand lenses don't contribute very much. If you, for instance, had 76 feet of sand perforated and figured that your recovery would be 10% of your oil in place you might have in your calculation at least around 200,000 barrels of recover-

able oil on an 80 acre spacing. However, we know that this could not be a valid figure because even if the well didn't decline and produced at top unit allowable, it couldn't produce this much oil. In other words, you simply know that well, 10% is probably a real good figure for the Mary Zone. Maybe eight, but certainly not more than 4% possibly for some of the poorer quality sands that are perforated in the well bore, so reserves in this area are extremely difficult to determine.

Q You did present reserves in a previous hearing on an economic basis calculated to 80 acre reserves, or not?

A I don't believe in this field that I did.

Q You haven't tried to calculate 80 acre reserves for any given well?

A No. In fact, our accountants are continually after me to establish what reserves these would be for close depletion purposes and every time they ask me, I know no more than the previous time.

Q As far as your economics, Mr. Jameson, putting aside for the moment your theory on this declining production caused by 40 acre, it is correct that on 40 acre spacing you would receive the same allowable that you were receiving on 80 acre spacing from any well in the field?

A That's true.

Q One other question I have. Would you feel that if

the Commission should issue an order solely to discourage offsetting wells, that the only real basis for issuing that order would be that they want to discourage drilling in the area?

A Well, as I discussed in my testimony, I don't believe that smaller spacing discourages drilling. We are perfectly willing and we're more than anxious to drill, to try to follow some of these trends to a little bit better permeability portions. However, we do say that we should do it on 80 acres and not 40. We don't feel that the smaller spacing creates drilling. We feel that better economics create drilling. Economics are what my people always scream. They don't worry much about the spacing if the economics is all right.

MR. DURRETT: Thank you, I think that's all I had.

MR. UTZ: Any other questions of the witness? The witness may be excused.

(Witness excused.)

MR. UTZ: Are there any further statements in this case? The case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 14th day of August, 1964.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No 2525, heard by me on August 5, 1964.

....., Examiner
New Mexico Oil Conservation Commission

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 10, 1963

EXAMINER HEARING

IN THE MATTER OF: (Reopened)

Case No. 2575 being reopened pursuant to the provisions of Order No. R-2267, which order established temporary 80-acre oil proration units and 320-acre gas proration units for the Lybrook-Gallup Pool, Rio Arriba County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 160-acre gas and 40-acre oil spacing.

CASE 2575

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 2575.

MR.DURRETT: In the matter of Case No. 2575 being reopened pursuant to the provisions of Order No. R-2267, which order established temporary 80-acre oil proration units and 320-acre gas proration units for the Lybrook-Gallup Pool, Rio Arriba County, New Mexico, for a period of one year.

MR. SPERLING: Jim Sperling of Modrall, Seymour, Sperling, Roehl and Harris, Albuquerque, appearing for Val R. Reese and Associates, Inc., one of the operators in this pool.

MR. UTZ: Any other appearances?

(Whereupon, Reese Exhibits Nos. 1 and 2 marked for identification.)

(Witness sworn.)

MR. SPERLING: Mr. Examiner, on behalf of Val R. Reese and Associates, Inc., I assume it is clear that we are appearing in an effort to support the continuation of the temporary rule insofar as this field is concerned, which presently provides for development on the basis of 80-acre spacing for oil proration units and 320-acre gas proration units.

MR. UTZ: That's correct.

LEWIS C. JAMESON

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. SPERLING:

Q Will you state your name, please?

A Lewis C. Jameson.

Q Where do you live and by whom are you employed and in what capacity?

A I'm employed by Val R. Reese and Associates, Inc., in Albuquerque, New Mexico, as Vice-President and Geologist.

Q Have you testified at the previous hearing on this matter?

A Yes, I testified in Case No. 2575 that resulted in establishment of Order R-2267.

Q Please refer to the plat which has been marked for identification as Exhibit No. 1 and tell us what that portrays.

A Exhibit No. 1 is simply an up-dating of our Exhibit No.

1 which we presented in the previous case in June of '62. The area of the Lybrook-Gallup Oil Pool was shown on the lower portion of the map as being enclosed by the heavy dashed line. The field to the north shown by the heavy solid line is the Escrito-Gallup Oil Pool. The only additional drilling in the area since the previous hearing was done by Dorfman in Section 32 of Township 24 North, Range 7 West, resulting in their No. 132 State, obtaining a potential of 97 barrels per day. This well is outside the one-mile limit of the Lybrook-Gallup Oil Pool as established previously.

The Warner No. 1 State Well in Section 36, Township 24 North, Range 7 West, was drilling at the time of the previous hearing and was completed for initial potential of 11 barrels of oil per day. The limits of the Escrito-Gallup Oil Pool were extended southward one-quarter mile to include this well in the pool limits. The Warner State Well is producing approximately 150 barrels of oil per month, and 3500 mcf of gas per month. The well is producing without the benefit of compressor facilities against the Southern Union 500-pound line, which of course is quite a lot to ask of a weak well of this nature.

The subsequent development since a year ago continues our belief that there is a very strong possibility that subsequent development will result in a joining of the two producing areas shown on this map.

Q There has been no additional development within the

Lybrook-Gallup Oil Pool itself since the initial hearing a year ago?

A No, there hasn't.

Q Please refer to what has been marked as Exhibit No. 2 and explain the information contained on that exhibit.

A Exhibit No. 2 is simply a tabulation of well production, giving the cumulative production at the date of the last hearing and giving the past year's production and the resulting cumulative production to May 1st, 1963.

At the date of the previous hearing there had been 70,128 barrels of oil produced; during this past year an additional 35,259 barrels was produced from the wells within this pool boundary, resulting in a cumulative production to May 1st of 105,387 barrels.

The gas production to May 1st, '62, was 431,074 Mcf; an additional 420,747 Mcf was produced during this past year, resulting in a cumulative production to May 1st, '63,of 851,821 Mcf. Not included in these gas figures are some gas productions reported as too small to measure.

Q Based upon the information that has been obtained, which seems to be primarily the past year's production, and based upon studies which you may have made concerning the productive characteristics of the wells within this pool, have you reached any conclusion or formed an opinion as to whether or not this field is presently being developed or is presently producing to

its economic capacity upon the spacing which is presently in effect?

A Yes. I believe that the past year's production does show that the spacing as established by the order is draining the field economically. This opinion is based in part on the productive characteristics of the wells. For instance, the 2-4 Campos Well operated by Bco in Section 4, 23 North, 7 West, is a well in which our company owns 40 percent working interest, and the production over the past year has shown no decline, this being due to drainage undoubtedly coming from a larger area than the 80 acres established by the pool spacing. This 2-4 Campos Well is located on the northern -- northwestern extremity of the field, and the development is rather scarce up in that corner of the field.

The curve on the 2-4 Campos as compared with the curve established by the 1-10 Campos in Section 10, an area that is more densely developed, shows a much flatter decline than does the curve on the 1-10 Campos. The 1-10 Campos has continued a typical Gallup decline and is producing at a rate and at a decline very similar to what would be experienced in the Escrito-Gallup Pool to the north.

The same is occurring in the 1-11 VanDenburgh, although the decline in production hasn't been quite as great in the 1-11 VanDenburgh, it again being on the edge of development and probably is draining an area in excess of its 80 acres as

established by the pool rules.

Q Have you made any sort of a pressure study insofar as any of these wells are concerned, for the purpose of interference?

A No, there have been no interference tests made. It's, of course, rather hard to obtain valid pressure information in a pool that needs to be produced every possible minute in order to keep the economics in a state where they will meet expenses, so there has been no pressure tests taken.

Q Do you have anything else to add, Mr. Jameson?

A No. It's our continuing opinion that there is no evidence to indicate that two areas, that is, the Escrito-Gallup Pool and the Lybrook-Gallup Pool, will not at some future date be connected; and, conversely, a cross section presented in the previous hearing shows that the producing section occupies the same position within the Gallup formation in the two areas.

The core analyses in the two areas compare very favorably, and the water saturations, oil saturations, porosities, are very similar. The characteristics of the producing wells between the two areas are the same, and it is our belief that the adoption of any rules other than the rules presently in effect in this pool would result very possibly in the prorating of the same reservoir under different rules.

Q The Escrito-Gallup Pool is presently under a permanent 80-acre spacing rule for oil?

A Yes, it is.

Q Now the line of cross section that is indicated on Exhibit 1 is, I assume, the same line of cross section as indicated on the cross section which is a matter of record in this case already?

A Yes, that was our Exhibit No. 2.

Q Based upon the testimony which you have given, and upon the information which you have collected which reflects the producing characteristics of these wells, do you consider it economic to develop on 40-acre spacing for oil and 160-acre for gas in this area?

A No, the economics are very slim on 80-acre spacing, and the fact that they are slim is reflected in the relatively few wells that we have been able to get drilled in the area.

MR. SPERLING: I believe that's all, Mr. Examiner.

MR. UTZ: Do you want to offer your exhibits?

MR. SPERLING: Yes, I would like to offer Exhibits 1 and 2.

MR. UTZ: They will be entered into the record.

(Whereupon, Reese Exhibits Nos. 1 and 2 received in evidence.)

MR. UTZ: Are there questions of the witness?

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Jameson, the fact of the matter is you have very little, if any, more information this year than you had last year

in regard to the continuity of the formation from the Escrito, except production?

A That's true. The economics have shown to be very poor and we have not been able to get additional development in the area.

Q Do you feel that would account for the lack of development between the two areas?

A Yes, sir. I feel that without a doubt if the economics were better, we would have been able to get additional wells drilled in this area.

Q How many wells in the Lybrook are actually top allowable 80-acre wells?

A Not any.

Q Still you contend that they drain 80 acres, even though they are marginal wells, because they haven't declined any, is that your testimony?

A Of course, there has to be a balance between what the wells will drain and what the economics will stand. Undoubtedly, a slight amount of additional oil could be obtained on 40; however, the oil in place, the recoverable oil in place under 80 is an extremely long return. In other words, payout on these wells on 80-acre spacing will be approximately 10 to 12 years. If the well is producing past that 10 to 12-year period, then there will be some additional return on your investment.

The economics are reflected in the production for May

as an example, in that the wells that Bco operates and in which we own an interest, the 1-10 Campos, the 2-4 Campos, and the 1-14 Nancy, had a net value of production after royalty, taxes, and overrides, of $2400.00; after deduction of the average expenses that we know pumping wells of this nature will have to net to the working interest, after expenses is approximately $1400.00.

This is before depreciation of three pump jacks, three tank batteries, three separators. This is the return that we're receiving in this area on an investment for these three wells of approximately $200,000.00.

Q How does the production of these wells compare with a 40-acre allowable?

A Well, there's not a well there that would be curtailed under 40-acre allowable. However, I don't believe that allowable is the prime consideration in this area at all. The same situation exists in the Escrito-Gallup Pool to the north. There are no top unit allowable wells in that pool, either.

Q Then your main consideration here, I gather, is economic rather than whether or not one well will drain 80 acres?

A Well, I do believe that the production from the wells shows that production is being derived from an area in excess of 80 acres..

Q Based upon what, decline curves?

A On the basis of the decline shown by the wells on the outside of the pool versus decline shown on the wells where the

drilling is denser.

Q Do you or the people you represent intend to take any interference tests, or do you intend to do any more developing in this area, or what is the situation?

A I am at this time in the process of making some geologic subsurface studies in this area which may result in the drilling of a well to the east of this pool that would extend the field limits.

Q But you don't know of any anticipated drilling between the two areas?

A Well, this proposed well that I'm working on would be adjacent to this field on the east, roughly in the vicinity of Section 12.

Q That would prove nothing as far as whether or not this is part of Escrito or not?

A No. However, if it turns out we can get in a little better sand development in that area, it should liven the area up tremendously.

Q Are you asking here for another temporary order, or permanent order?

A Well, we can see no reason for this area to be treated any different than the more prolific pool to the north, the Escrito-Gallup, and we request a permanent order.

MR. UTZ: Are there any other questions of the witness?

MR. DURRETT: I have a question.

BY MR. DURRETT:

Q Mr. Jameson, I'm a little hard put to understand something here. I want you to please explain it to me one more time. If none of the wells in this pool are capable of producing a 40-acre allowable right now, then how will any operator be hurt by reverting to 40-acre proration units?

A It would only be in the event someone who didn't know the area came in and would force an offset that would force us to spend money that would be wasted, and we see no reason for putting the operators in this pool in that position; because if a well is drilled by a promoter and an additional well is necessary to protect your offset, based on the flush production that these wells all incur initially, it just looks to us like we can protect ourselves on this type offset by going to a spacing that the economics show to be necessary in order to get any development at all.

Q You do feel, do you not, that the Commission should encourage the discovery of oil as much as possible?

A Well, that's true. However, small spacing doesn't encourage development, and in the long run would probably discourage development.

Q If you were forced to step out and drill an offset well and you hit oil on it, then your money wouldn't be wasted, necessarily?

A Well, if you must invest money that it takes you over

twelve years to get back, I think there's a lot better places than the San Juan Basin to put that dollar, than there.

Q If your company would determine that, they would just not drill an offset well, would that be correct?

A Well, that is very possible, yes.

MR. DURRETT: That's all I have.

MR. UTZ: Mr. Arnold.

BY MR. ARNOLD:

Q Mr. Jameson, if you do go back to 40-acre spacing on this pool, your gas production would be affected on a couple of wells, wouldn't it?

A Well, the No. 1-9 Benn Well has 160-acres dedicated to it now, and is classified as a gas well. We are slightly curtailed on the gas production as determined by the 160-acre spacing. However, that's all the acreage that we had available to dedicate to the well.

Q If you reverted to 40-acre spacing, then your gas production would be curtailed on that well pretty drastically?

A Yes, that's true. However, the call of the hearing mentioned 160-acre gas spacing.

Q Yes, I see that now, 160 as against 320?

A Yes.

Q You are slightly curtailed at 160?

A Yes, that's right. Actually, we don't have quite 160 acres dedicated to that well, due to an irregular section. I

believe there's about 152 acres dedicated to the well.

MR. DURRETT: If you had 160, would you be curtailed, if you had 160 you could dedicate to it?

A It's really hard to say. We simply choked the well back to a point where it was staying within its allowable, and had we been producing at a larger choke we may have declined more and would therefore be about where we are anyway. So it's rather hard to say.

MR. UTZ: Any other questions? The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements in this case? The case will be taken under advisement, and the hearing is adjourned until 1:15.

(Whereupon, the hearing was recessed.)

* * * *

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal this 31st day of July, 1963.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2575, heard by me on July 2, 1963.

Examiner
New Mexico Oil Conservation Commission

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 7, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Val R. Reese & Associates, Inc. for the creation of a new oil pool and for special pool rules, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Gallup production in Township 23 North, Range 7 West, Rio Arriba County, New Mexico, and further seeks the adoption of special rules and regulations for said pool similar to the special rules presently governing the Escrito-Gallup Oil Pool which provide for 320-acre gas proration units and 80-acre oil proration units (Order No. R-1793-A).

Case 2575

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call next Case 2575.

Application of Val R. Reese & Associates, Inc. for the creation of a new oil pool and for special pool rules, Rio Arriba County, New Mexico.

MR. KELLAHIN: Jason Kellahin, Kellahin & Fox, representing the applicant. We will have one witness, Mr.

Jameson.

(Witness sworn.)

LEWIS C. JAMESON

called as a witness, having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A Lewis C. Jameson.

Q By whom are you employed and in what position?

A I am employed by Val R. Reese & Associates, Inc., as geologist, and I am Vice President of the company.

Q Have you ever testified before the Oil Conservation Commission and had your qualifications made a matter of record?

A Yes, I have. In one of the cases I previously testified in was Case 2089, which is the application of Val R. Reese & Associates for special field rules in the Escrito-Gallup Oil Pool, and we're asking for the same type of rules here today.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, they are. Please proceed.

Q Mr. Jameson, have you made a study of the Lybrook-Gallup Oil Pool with respect to well spacing and the well units?

A Yes, I have, and I am prepared to recommend field rules for the order which the Commission described in their nomenclature hearing 2563, sub paragraph (a); this was called for hearing at the May 16, 1962 hearing. We requested by telegram that this hearing, this portion of the case be postponed, and with the provision that we would immediately request special field rules.

Q That case, then, was not heard?

A No, it wasn't.

Q What are the recommendations of Val R. Reese, Inc. to this Commission for field rules for the Lybrook-Gallup Pool?

A It is our recommendation that the special rules which are presently governing the Escrito-Gallup Oil Pool be adapted, and a study of this area shows that the two pools are producing from the same portion of the Gallup formation, and there is no evidence that future drilling will not see the pools going together.

Q In your opinion, do you think that they will eventually join?

A Yes, I do.

Q Have you prepared an exhibit which shows the area involved?

A Yes, I have.

(Whereupon, Applicant's Exhibit No. 1 was marked for identification.)

Q Referring to what has been marked as Exhibit No. 1, would you discuss the information that is shown on that exhibit?

A The area for the proposed Lybrook-Gallup Oil Pool is shown colored in blue, and this is the same as the Commission's nomenclature hearing, the description of the acreage to be included in it with the exception of Section 14, I have included the West Half of the Northeast Quarter of the section instead of the North Half of the Northeast Quarter, in order that that 80-acre tract might coincide with the acreage which was earned by drilling the 1-14 Nancy B Well.

Q Does the map in any way reflect the connection between the Escrito-Gallup and the proposed new pool?

A Yes. The limits of the Escrito-Gallup Oil Pool are shown by the heavy, solid line directly to the north of the Lybrook Pool, and the relationship between the two pools can be shown. The producing wells in the entire area are shown on the map, and the initial potential of the wells are given. Also shown on the area map, Exhibit No. 1, is the cored wells on which we have information in this area.

Q How are they shown?

A They're shown by the heavy triangle around the well symbol. A study has been made of these cored wells in the entire area to determine any lithological change which might occur in

the area.

Q Did you make that study yourself?

A Yes, I did.

Q Did you find any significant lithologic change between the Escrito-Gallup and the Lybrook-Gallup Oil Pool?

A No, I did not. The core analyses in the two areas are very similar and, in fact, a core in one area could not be differentiated between from one in the other area.

Q What portion of the lands in the proposed new pool are subject to this application, or owned or controlled by Val Reese?

A Included within the blue colored area here, the proposed Lybrook-Gallup Oil Pool, are 2400 acres, Val Reese & Associates owns or controls 800 acres, and we also hold a 40% working interest under an additional 560 acres. The remaining 60% working interest being operated by the Bco, Inc., which also operates an 80-acre tract in which Reese owns an override.

Q That Bco is B-c-o?

A Right, capital B-c-o, Inc.

Q Now, referring to what has been marked as Exhibit No. 2, Mr. Jameson, would you identify that exhibit and discuss the information shown there.

(Whereupon, Applicant's Exhibit No. 2 was marked for identification.)

A Exhibit No. 2 is a south to north cross section showing three wells in the Lybrook-Gallup Pool and three wells in the Escrito-Gallup Pool. This cross section is arranged on a datum marker bed within the Gallup formation, and the perforations are shown in the center column of the logs.

Q The exhibit is not on a scale horizontally, is it?

A Yes, the horizontal scale is five inches equal one mile.

Q I see.

A The line of cross section is shown on Exhibit No. 1 by the dashed line between the point A and A^1.

Q What does that cross section reflect, in your opinion?

A The cross section shows a continuity of the main producing horizon in the two areas which is the sandstone symbol. It shows the continuity from the Lybrook field to the Escrito field. The heavy, dashed, vertical lines between logs 3 and 4 show the limits of the two fields.

Q What conclusions do you draw from that exhibit, Mr. Jameson?

A My conclusions are that the two areas are producing from the same sand and, in conjunction with other information, I believe that the two areas will be joined.

Q Do you find any significant difference between the two areas which would justify a different treatment in the Lybrook

area than the Escrito-Gallup area?

A No, I do not.

(Whereupon, Applicant's Exhibit No. 3 was marked for identification.)

Q Now, referring to what has been marked as Exhibit No. 3, would you identify and discuss that exhibit, please?

A Exhibit No. 3 is nothing more than a well data sheet which gathers up a lot of miscellaneous information. The wells in the Lybrook-Gallup Pool are listed in order of section, township and range, and the present operator is shown. I might point out that on Exhibit No. 1, the two wells in the southern part of Section 2, which the map shows as Carter, and are now operated by Smith; they were drilled by Carter, but I didn't change the name on my map, I actually just took a portion of a larger map which we had, the same holds true for several wells which are operated by Bco, and in which Val Reese & Associates owns 40% interest, these wells being the No. 2-4 Campos in Section 4, the No. 1-10 Campos in Section 10, the No. 1-14 Nancy B in Section 14, and a well in which we do not hold an interest except for an override, the 1-15 Betty B in Section 15. These wells are operated by Bco.

Q Would you summarize your reasons for recommending to the Commission that the Escrito-Gallup Pool rules be utilized

in the Lybrook-Gallup Pool?

A Well, there's no evidence to indicate that the two areas will not be joined by additional drilling in the area, and the cross section shows continuity between two areas, and that the main producing sand in the two areas is continuous across the 1.8 miles between the Log No. 3 and Log No. 4 on the cross section.

Of course, the field limits being outside the position occupied by the well mean that in actuality from field limit to field limit is just slightly over the mile the way it's, the two areas are outlined on Exhibit No. 1.

The core analyses on the area shows that the two areas have porosities very similar and with similar oil and water saturations, and the typical low permeability that we encounter in this area, the reservoir properties are very similar as reproducing characteristics of the wells in the two areas. The adoption of any rules other than the Escrito-Gallup Pool rules would very possibly result in the prorating of the same field under different rules.

Q We've made reference to the rules of the Escrito-Gallup Pools, are the rules that you are referring to and recommending to the Commission the rules contained in Order R-1793-A dated December 8, 1960?

A Yes, sir, they are.

Q Those are the rules that you recommend be used for the Lybrook-Gallup Oil Pool?

A Yes, the identical numbers.

Q Do you recommend the name Lybrook-Gallup Oil Pool to the Commission?

A Well, we had always called it the Vandenburg area, but I understand that the Commission likes a geographic name, and it may have gotten in my testimony as the Vandenburg area, but we have no serious objection to it.

Q You have no objection to the Lybrook name, is that correct?

A No, that's correct.

Q Were Exhibits 1, 2 and 3 prepared by you or under your supervision?

A Yes, they were.

MR. KELLAHIN: At this time we would like to offer in evidence Exhibits 1, 2 and 3.

MR. NUTTER: Exhibits 1, 2 and 3 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1, 2 and 3 were admitted in evidence.)

Q (By Mr. Kellahin) Mr. Jameson, in your opinion will the

approval of this application result in the protection of correlative rights and prevention of waste?

A Yes, it will.

MR. KELLAHIN: That's all the questions I have of the witness.

MR. NUTTER: Any questions of Mr. Jameson?

MR. ZAMORA: Yes. I will first identify myself. My name is Matias Zamora. I'm an attorney and I'm representing Bco, Inc., the operator of certain of the wells involved in this area.

CROSS EXAMINATION

BY MR. ZAMORA:

Q First of all, I would like to ask the witness if he is acquainted with the location of Well 2-4 Campos on Section 4 of that township?

A Yes, I am.

Q Are you acquainted with the terrain in that area?

A Yes, I am.

Q Would you describe it, please?

A Well, in between the 2-4 Campos well, for instance, the Reese 1-9 Benn Well in Section 9, the area is soft, loosely consolidated, steeply eroded hillsides, and there are many little arroyos.

Q Could I ask you if the terrain between those two wells that you have described poses some definite problems insofar as the operator is concerned?

A Well, there's no road between the two areas, between the two wells, and that possibly makes maintaining of a gas line a little harder than it is, for instance, from the 1-9 Benn Well down to 1-10 Campos Well.

Q Let me ask you, in connection with the Well 1-14 Nancy B and Well 1-15 Betty B, are you acquainted with those two wells and their locations?

A Yes, I am.

Q Could you tell us, or describe the history of these two wells insofar as gas production is concerned?

A Well, the last gas-oil ratio which was filed with the Commission showed that the 1-14 Nancy B had a gas volume too small to measure, and I know of no change in that to date, I understand there's very little gas and barely enough to run the pumping unit. The 1-15 Betty B showed, as shown on Exhibit No. 3, that the current gas-oil ratio was 12,640 to 1. However, as was filed with the Commission at the time that gas-oil ratio was taken, the well only produced 8 barrels and has since dropped to about 6 per day, and, therefore, the total volume of gas has probably decreased.

Q Could you tell us when Bco, Inc. assumed operation of these two wells?

A The 15th of March.

Q Prior to that time were these operated by Val R. Reese?

A Yes, they were.

Q During the time that they were operated by Val R. Reese Company, did you in your official capacity maintain all records with relation to gas production pertaining to these two wells?

A Yes, we did.

Q Now, from your experience and your records in connection with these two wells, do you have an opinion as to whether or not a flare order should be maintained with respect to the two wells?

A Well, I believe that due to the extremely small volume from the 1-14 Nancy B that there should not be any question of an exception to a no-flare order, and I would like to point out in anticipation of your next question, that on the 1-15 Betty B, not only has the volume of gas decreased, but that well is located on the opposite side of State Highway 44 between Cuba and Farmington from the compressor, and, therefore, would necessitate drilling a horizontal hole underneath the right-of-way in accordance with specifications set out by the engineering, the New Mexico

Engineers, and it is rather expensive.

Q Would you say, then, in conclusion, that the flare order should be maintained with respect to the two wells identified?

A Yes, I believe they should.

MR. ZAMORA: I would like the record to show that we're not objecting to the application insofar as the adoption of the rules proposed by the applicant except with respect to the inclusion of the Well 2-4 Campos, and also that we would like to, within the same order as an ancillary action thereto, request that the Commission give us a flare order with respect to Nancy 1-14 and 1-15 Betty B. I have nothing further.

MR. NUTTER: Did you include the Campos 2-4 in that request?

MR. ZAMORA: No, I did not.

MR. NUTTER: Just the Betty 1-15 and the Nancy 1-14?

MR. ZAMORA: That's right.

MR. NUTTER: Do you have any further questions?

MR. ZAMORA: No, I don't.

BY MR. NUTTER:

Q Here on Exhibit 3 you give the GOR and the date of first oil production, but you don't give the latest oil production. That would presumably be the one that the GOR is shown for?

A I can give you that as well as the monthly production at present, whichever you like, or both.

Q Well, it depends on when the tests were taken?

A Well, the tests are rather old. Of course, this being an undesignated area, the tests are due to be taken again in June to July, and they are rather old gas-oil ratio tests.

Q Will you run through the oil production on the GOR tests and give me the date, please?

A On the Nancy B 1-14, the test was taken in February, 1962, the oil produced was 26 barrels, and the gas was too small to measure. The well was on pump, and choke was 2" during the test period of twenty-four hours. Unless I overlooked it, I don't seem to have Form C-116 which was filed, I believe was filed in August of 1961. I'm sure that is in the Commission files, but I don't seem to have a copy of it with me.

Q For what wells?

A For the rest of the wells in the area. We filed them all at the same time.

Q So you don't have the information with you as to what the wells made on their last test?

A Yes, I do on the 1-15 Betty, that was 8 barrels. I do not have the date of the test, however. On the 2-4 Campos, it was 26 barrels, and again, I don't have the date. On the 1-10 Campos

it was 85 barrels.

Q You don't have the date? A No, I don't.

Q How about on the other wells in the pool?

A I don't have that information on them.

Q Do you have the most recent months' production on the wells?

A Yes, I do, I do have April production with the days produced. On the 2-4 Campos, the production for April was 644 barrels, in 27 days. The flared gas was 2,000 MCF during the month on the Reese 1-9 Benn. The oil production for April was 154 barrels, and the gas, 27,199 MCF. That is sold through the compressor to Southern Union.

Q How many days?

A Thirty days. I also have the production on Southern Union's No. 1 Dunn and, in fact, all the other wells in the area, if you would like to have them.

Q Yes, sir, I would like production on all of them.

A The Smith No. 1 State well in Section 2 produced 403 barrels during April and they, I don't believe reported their days. At least I didn't get the information from the Aztec office of the Oil Conservation Commission. On the No. 2 State, the barrels produced was 561, again, no days were reported. On the Southern Union No. 1 Dunn, produced 168 barrels in 26 days,

the Dr. Dunn No. 1 Dunn produced 38 barrels in 30 days and sold 2,729 MCF to Southern Union. The 1-10 Campos produced 688 barrels and 14,239 MCF in 30 days. This gas was sold through the compressor also to Southern Union. The 1-11 Vandenburg sold 806 barrels of oil and 5,342 MCF of gas in 30 days. That also goes through a different compressor to Southern Union. The 1-14 Nancy produced 271 barrels in 30 days and the 1-15 Betty B produced 139 barrels in 30 days.

Q That was all in April? A Yes.

Q Mr. Jameson, here on this cross section I notice on the wells, through the depiction of the well you have horizontal lines with a vertical line through them. Does that indicate the perforated interval in each of these wells?

A Yes, it does.

Q So while the wells may have similar characteristics in some regards, the perforated intervals don't correspond from well to well necessarily, do they?

A In some cases they do, for instance, this Well No. 4, the Pan American No. 1 Zanotti, it is far enough south in the Escrito field that the section below the main pay, which we call the Mary, has been perforated, and this same section, or at least a portion of it, plus an additional section is perforated in the 2-4 Campos, and in the 2-4 Campos a section lower is perforated.

These lower sands are shown by core analysis in the Lybrook Pool area to have gone over the border line of what we consider as productive pay, whereas in the Escrito they are a slightly poorer quality sand and are also in thinner lenses.

Q Is this Gallup sand body here generally trending Northwest-Southeast as so many of the other Gallup sands in the area do?

A Yes, it is. The best portions of your sand deposits are in a Northwest-Southeast trending area and are about one location wide, if that wide, sometimes we miss it.

Q Then the three wells on the cross section Nos. 1, 2 and 3 would depict a cross section along the axis of the structure, is that correct?

A Not entirely. We are off to the north on the No. 2-4 Campos well, and possibly we are off on the 1-9 Benn well, so your well productive capacity down in that area indicates we haven't exactly tied down our highest volume pay.

Q In your V-No. 1-9 Benn, would that mean that the well is north of the main axis?

A Possibly.

Q So that the axis would be almost east-west then?

A In that short interval it is, which is the same as up in Escrito, the little narrow belt of better sand snakes its way

down through these two fields.

Q Of the wells on the cross section, the No. 1-9 Benn has a GOR quite a large amount in excess of the other wells, yet its perforations are lower than the other two wells, to what do you attribute that?

A That is the same situation that we have run into up in the Escrito field, and an additional reason why we believe that the same field rules should be applied to this other area. The 1-9 Benn well is producing from the same section as the other wells in the area. There are two high gas-oil ratio wells in the area, both classified at this time by the Commission as gas wells. That's the Benn Bud No. 1 Dunn, or it's now operated by Dr. Samuel Dunn in Section 10 and our No. 1-9 Benn well in Section 9.

Q And the Bud Dunn No. 1 is the one with the GOR of 109,000 on your Exhibit No. 3?

A Yes, as pointed out on a footnote on Exhibit 3, that GOR was taken --

Q In February of '59?

A Yes. Right, you found it before I did.

Q The other well that's classified as a gas well is the Reese Benn 1-9?

A Yes, sir.

Q With the GOR of 73,000 and the date of that test unknown?

A Yes.

Q Are the Escrito rules, which you've referred to in your testimony, being Order No. 1793-A, permanent rules as far as the rules themselves are concerned, or are they temporary rules with the thing to be reviewed later?

A I see no reason why it shouldn't have the same status as the rules in the Escrito.

Q I mean the Escrito rules, are these temporary rules?

A The Escrito rules are permanent rules.

Q And they provide for 320 acres to be dedicated to a well classified as a gas well and 80 acres to a well classified an oil well?

A They provide that at the option of the operator dedicated up to 480-acre proration units to a well. In the case of the 1-9 Benn well, we would dedicate two 80-acre proration units. The reason being we don't own the rest of the acreage. Mr. Nutter, I do have the date of the test on the Benn No. 1 with 72,920 GOR reported, the reason being that is the date of request for classification change from an oil well to a gas well. That test was taken the 25th of August, 1961.

MR. MORRIS: Mr. Jameson, I don't want to let your remark stand on the record there with respect to the gas well being able to dedicate multiples of 80 up to 320 acres, because

Rule 2 of the Escrito rules provides that the gas proration unit in the Escrito shall be 320 acres.

A I believe there is an additional paragraph in the rule which further clarifies that.

MR. NUTTER: Which one?

MR. MORRIS: Can you direct me to that?

A I'll look.

MR. MORRIS: There is, of course, provision for administrative approval in specified cases for non-standard units, but this has nothing to do with what a standard unit shall be.

A Rule No. 3 provides that 80-acre proration units be established for oil wells in the pool, and that 320-acre proration units be established for gas wells in the pool with the limiting gas-oil ratio to determine what's a gas well and what's an oil well set at 30,000 to 1.

MR. MORRIS: Yes.

MR. NUTTER: I believe the Escrito rules will probably speak for themselves. The Commission has a copy of them.

Are there any further questions of Mr. Jameson?

MR. COOLEY: William J. Cooley, firm of Verity, Burr & Cooley, appearing on behalf of Jacob I. Smith, trustee who holds the leasehold rights in Section 2.

BY MR. COOLEY:

Q Mr. Jameson, how does the productivity of the Smith wells, which you show on your Exhibit No. 1 as being the Carter State lease, compare with the other wells in the pool?

A The April production which was reported to the Commission is below some of the wells in the area and higher than some of the wells in the area.

Q Does the existence of production of average or better than average production this far north of the axis to which you have just testified indicate that there might be another sand stringer or something in this area?

A I believe that if we start chasing individual permeability streaks within the Gallup formation, which allows for production slightly in excess possibly of average, that we would have many, many pools for no reason in that the areas are connected and the reason for the difference in productive capacity is only due to a variance in permeability.

Q Lensing in permeability in the Gallup zone is certainly nothing unusual in the northwest?

A No, it isn't.

Q Do you feel that the discovery of the Smith 1 and 2 reasonably tend to show that the North Half of Section 2 is also productive in the proposed Lybrook-Gallup Pool?

A Yes, I believe it will.

Q Would you have any hesitation in also recommending that the North Half as well as the South Half of Section 2 be included in the pool at this time?

A I would have no objection. However, I would have to add that I see no reason for it until it is drilled.

Q Do the pool rules which you have proposed have the standard provision of applicability of one mile beyond the established limits of the pool?

A Yes, that provision is covered.

Q Then, in any event, the North Half of Section 2 would be covered by these proposed pool rules?

A Yes, it would.

MR. COOLEY: Nothing further, thank you.

MR. NUTTER: Any further questions of Mr. Jameson? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all I have, thank you.

MR. NUTTER: Does anyone have anything they wish to offer in Case 2575?

MR. COOLEY: Mr. Examiner, we would at this time, on behalf of our client, Jacob I. Smith, trustee, recommend that the North Half of Section 2 be included in the initial horizontal

limits of the pool for the reason that the same seems to have been reasonably proven productive in this same zone by virtue of the production in the South Half of Section 2.

MR. NUTTER: Thank you.

MR. MORRIS: May I ask Mr. Zamora to again give us the names of the wells which he proposes be given exception to no-flare orders in the pool?

MR. ZAMORA: Yes, the 1-14 Nancy B and the 1-15 Betty B.

MR. MORRIS: Do I understand you, Mr. Zamora, to ask that the Campos Well 2-4 be excluded from the horizontal limits of the pool?

MR. ZAMORA: That is correct.

MR. MORRIS: In the event that the Commission did not seek the right to, would you seek a no-flare order?

MR. ZAMORA: At this time we do not seek a no-flare order insofar as the 2-4 is concerned, but we do not want to be foreclosed in the event that we deem it necessary.

MR. MORRIS: Thank you.

MR. NUTTER: Does anyone have anything further in this case? We will take the case under advisement and recess the hearing until 1:15.

(Whereupon, a recess was taken until 1:15 P.M.)

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 21st day of June, 1962.

Ada Dearnley
Notary Public-Court Reporter

My commission expires:

June 19, 1963.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 8575, heard by me on June 7, 1962.

..... Examiner
New Mexico Oil Conservation Commission

No. 19-63

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 10, 1963

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM, STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, as alternate examiner:

CASE 2848: Application of Skelly Oil Company for a unit agreement, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of its East Bisti Unit Area comprising 17,812 acres of Federal, State and Indian lands in Townships 24 and 25 North, Ranges 9, 10, and 11 West, San Juan County, New Mexico.

CASE 2849: Application of Skelly Oil Company for a waterflood project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Bisti Lower-Gallup Oil Pool, San Juan County, New Mexico, by the injection of water into the Gallup formation through 34 wells in its East Bisti Unit Area.

CASE 2850: Application of Shell Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the East Pearl-Queen Unit Area comprising 2440 acres of State and Fee lands in Township 19 South, Range 35 East, Lea County, New Mexico.

CASE 2851: Application of Shell Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its East Pearl Queen Unit by the injection of water into the Queen formation through 29 wells in Sections 15, 21, 22, 26, 27, 34 and 35, Township 19 South, Range 35 East, Lea County, New Mexico.

CASE 2852: Application of Amerada Petroleum Corporation for a triple completion and for commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the triple completion (combination) of its State NJ "A" Well No. 1 located in Unit A of Section 2, Township 25 South, Range 37 East, North Justis Field, Lea County, New Mexico, to produce oil from the McKee and Ellenburger zones through 1-½ inch tubing inside parallel strings of 3-½ inch casing and from the Montoya zone through 1-¼ inch tubing inside 2-7/8 inch casing, all casing strings to be cemented in a common well bore. Applicant further seeks to add the Montoya zone to the commingling authority previously granted by Administrative Order No. PC-84.

CASE 2853: Application of Humble Oil & Refining Company for an amendment to Order No. R-2154, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of the expansion of its Cha Cha-Gallup Pressure Maintenance Project, San Juan

County, New Mexico, including the conversion of additional wells to water injection.

CASE 2854: Application of Pan American Petroleum Corporation for an unorthodox location and a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its SMU Well No. 15 to produce oil from the Fowler-Blinebry and Fowler-Ellenburger Pools through parallel strings of tubing, said well to be at an unorthodox location for the Fowler-Ellenburger Pool at a point 660 feet from the North and East lines of Section 22, Township 24 South, Range 37 East, Lea County, New Mexico.

CASE 2855: Application of Pan American Petroleum Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its SMU Well No. 1 located in Unit J of Section 15, Township 24 South, Range 37 East, Lea County, New Mexico, to produce oil from the Fowler-Blinebry and Fowler-Ellenburger Pools through parallel strings of tubing.

CASE 2856: Application of Socony Mobil Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its State Bridges No. 97 well located in Unit O of Section 26, Township 17 South, Range 34 East, Lea County, New Mexico, to produce oil from the Blinebry and Glorieta formations, Vacuum Field, through parallel strings of 1.61 inch I.D. tubing.

CASE 2575: (Reopened)
In the matter of Case No. 2575 being reopened pursuant to the provisions of Order No. R-2267, which order established temporary 80-acre oil proration units and 320-acre gas proration units for the Lybrook-Gallup Pool, Rio Arriba County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 160-acre gas and 40-acre oil spacing.

CASE 2857: Application of Standard Oil Company of Texas for special pool rules, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of special pool rules for the Boulder-Mancos Oil Pool, Rio Arriba County, New Mexico, including provisions for 80-acre spacing therein.

CASE 2858: Application of Standard Oil Company of Texas for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of special pool rules for the La Plata-Gallup Oil Pool, San Juan County, New Mexico, including provisions for 80-acre spacing therein.

iqg/