

CASE 4121: Application of ROGER  
C. HANKS FOR SPECIAL POOL RULES,  
LEA COUNTY, NEW MEXICO.

*Continued to June 4<sup>th</sup> 69.*

Case Number.

4121

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Application

Transcripts.

Small Exhibits

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

June 4, 1969

EXAMINER HEARING

IN THE MATTER OF:

Application of Roger C. Hanks  
for special pool rules, Lea  
County, New Mexico.

Case 4121

BEFORE: DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

## NEW MEXICO OIL CONSERVATION COMMISSION

## EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JUNE 4, 1969

TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Nina L. Dullamie	RW Byram & Company	Santa Fe
C.R. Kneuz	MOBIL	MIDLAND
Roger Hawks	Roger Hawks	Mid.
Clarence H. Hines	"	Roswell
L.D. Superior	"	Midland
William J. LeMay	Roger Hawks	Santa Fe
Robert J. Kenney	Hammie Lee Smith, Jr.	Lawington
E. F. Cotman	Superior Oil Co.	Austin, Tex
Booker Kelly	White Oil & Gas Kelly	S.F.
Leroy Clay	Superior Oil Co.	Midland
C.R. Appleton	E. V. McElvane	Roswell
Jason Kallahan	Kallahan & Fox	Santa Fe
Ernest H. Evans, Jr.	Self	Roswell
W. A. Lussick	W. A. Lussick	Austin
John H. Swendig	Amorade	Hobbs
James D. Ramsey	V. S. Melick	Roswell
Jack L. McChesney	Jack L. McChesney	Roswell



NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date JUNE 4, 1969 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
J. E. Sperling	Moham Lynn	Albuquerque
L. M. Williams	et al	Midland
Jerry I. Moritz	Tenneco	Midland
	DTA Oil Prod	

MR. NUTTER: The Hearing will come to order, please. Case No. 4121.

MR. HATCH: Case 4121, continued from the May 7, 1969, Examiner Hearing. Application of Roger C. Hanks for special pool rules, Lea County, New Mexico.

MR. NUTTER: Let the record show that this is a resumption of Case 4121. The Case was originally started on May 7, 1969, and recessed while additional tests were conducted in the Pool.

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant and Christy, appearing on behalf of Roger C. Hanks.

I might add to the statement of the Examiner that at the Hearing on May 7th, we had the testimony of one witness, Mr. Bill LeMay, and the Protestant, Mr. McElvaney, presented Mr. Ralph Viney. It was at the close of his testimony that the Hearing was continued, and it was continued, I believe, first to the last Hearing in May, and then due to the fact that Mr. Viney was not available for that Hearing, it was continued until today.

MR. KELLAHIN: If the Examiner please, my recollection is that it was continued to June 4, and then it was proposed to have it on the last Hearing in

May because the pressure information had become available prior to that time. Not that it makes any difference, but Mr. Viney is still not available, and we do have Mr. Appeldorn here as a witness.

MR. HINKLE: We have one additional witness at the present time, and several exhibits here which I would like to have identified. I believe the original exhibits in the original Hearing we had under one cover, one Exhibit with nine parts. I can't recall whether that was Exhibit A or No. 1, or what it was.

MR. NUTTER: That is identified as Applicant's Exhibit A, Mr. Hinkle.

MR. HINKLE: We have five additional exhibits, so we will just refer to those as 1 through 5, if it is all right.

MR. NUTTER: Perhaps these should be identified as Exhibits B-1 through B-5, because the Exhibits are identified in Exhibit A as Exhibits 1 through 9. So to avoid confusion, perhaps we will mark these as B-1 through B-5.

MR. HINKLE: We would like to have Mr. Sipes sworn.

(Thereupon, Applicant's Exhibits B-1 through B-5 was marked for identification.)

L. D. SIPES,

called as a witness by the Applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, residence, and profession?

A L. D. Sipes, Junior. I live in Midland, Texas, 2608 Centinell Street. I am a registered professional engineer, a Petroleum Engineer.

Q Consulting Engineer?

A Yes, sir.

Q Have you previously testified before the New Mexico Oil Conservation Commission?

A Yes, I have.

Q Are your qualifications as a Petroleum Engineer a matter of record with the Commission?

A Yes, they are.

Q Are you familiar with the application of Roger Hanks in Case 4121?

A Yes, I am.

Q Have you made a study of the Bar U-Pennsylvanian Pool?

A Yes, sir.

Q In connection with your preparation for testimony in this Case?

A Yes, sir.

Q Are you familiar also with the Bough C production in Southeast New Mexico?

A Yes, sir.

Q And other pools where they have Bough C production?

A Yes, sir.

Q Have you prepared or has there been prepared under your direction certain exhibits for introduction in this Case?

A Yes, there have been.

Q You have heard the statement that this Case was continued for the purpose of allowing the operators to make certain tests, bottomhole pressure tests. Are you familiar with those tests that were made?

A I am.

Q Were they made under your supervision?

A They were.

Q Can you give the Commission a brief resume of the manner in which these tests were made, just exactly

what procedure was followed?

A Yes, sir. On May 14, 1969, the wells in the Bar U-Penn Field were shut-in. The Roger C. Hanks Bridwell State No. 2 Well was actually shut-in at 11 o'clock the previous day, on May 13, 1969.

The other wells, there were four in the field that were shut-in on the morning of May 14, 1969, for the purpose of conducting a bottomhole pressure survey. The purpose of the survey was to determine the static pressure in the reservoir at that time.

The shut-in times on the individual wells were as follows: for the Roger C. Hanks Bridwell State No. 1, was 6:43 A. M. on May 14th. On the Bridwell State No. 2, the shut-in time was 11 o'clock A. M. on May 13th. For the Lario State B No. 1, the shut-in time was 6:37 A. M. on the 14th. For the State B No. 2, shut-in time was 6:41 A. M. on May 14th. And for the Sinclair State No. 1 Well, shut-in time was 6:35 A. M. I was in the field at that time, and witnessed the shut-in of these wells.

Q Do you know whether or not Mr. McElvaney was given notice that these tests would be made?

A Yes, I understand that he was given the required notice.

Q Did he have a representative present at the time the tests were being made?

A He had a representative present upon the termination of the tests, but not upon the initiation of them on the 14th.

Q Go ahead.

A After shut-in the wells were prepared for bottomhole pressure testing, which required that three of the wells be pulled, the tubing to be pulled out of them. These were the Bridwell State No. 1, the State Lario -- the Lario State B No. 1, and the Lario State B No. 2. The Sinclair State No. 1 well was shut-in, but was not tested at this time. There had previously been a bottomhole pressure test taken in that well on April 17, 1969.

After these wells were pulled, there was a bottomhole bomb run into each of the four wells surveyed. These bombs had 72-hour clocks in them and the bombs were run to the bottom of the hole, or at near to the perforations and the formations as possible, safe instrument depth, and left there until the morning of the 16th, at which time we went back to the field and recovered the bombs, and completed the bottomhole pressure survey.

Q Have you made a tabulation of the results of the

survey?

A Yes, I have.

Q Refer to Exhibit No. 1, and explain this to the Commission?

A Exhibit B-1 is a list of the shut-in pressures which were measured in the field at a datum of minus 4,600 feet. These are extrapolated so they will be at the same datum. Also included here, other than the four wells which were tested during this May 14th to 16th period, is the information on the test on the Sinclair State taken in April.

MR. NUTTER: Although you didn't run a new bottomhole pressure test on this Sinclair State No. 1, you said it was shut-in, however, during the time the other wells were tested?

THE WITNESS: Yes, sir. To the best of my knowledge, both on the 14th and 16th, when I was in the field, there was no oil produced from that reservoir during the period of these tests.

MR. NUTTER: And this time you mentioned, 6:35 A. M. on the morning of the 14th, that is when the Sinclair Well was shut-in?



THE WITNESS: Yes, and it was opened after 8 o'clock on the morning of the 16th. So there was actually no production of any kind from the reservoir during the testing period.

MR. NUTTER: And you attempted to get a static pressure throughout?

THE WITNESS: That's right. As shown on this tabulation, the bottomhole pressures at the various shut-in times which are shown here varied from 1,327 in the Bridwell State No. 1 operated by Roger C. Hanks, up to a high of 1,390 PSI on the Lario State B No. 1 Well. The average of the four wells which were surveyed at this time, at the shut-in times shown, was 1,357 PSI.

Q (By Mr. Hinkle) Which is the oldest well, that is the first one drilled in point of time?

A The Lario State B No. 1.

Q That is the one that shows 1,390?

A Yes, sir.

Q Do you have any further comment with respect to Exhibit B-1?

A Yes. I might point out that two of the wells were not completely built up, and a reasonable extrapolation

of these data and an average of the built-up pressures, extrapolated built-up pressures, leads me to conclude that the static reservoir pressure in the Bar U-Penn Field on May 16, 1969, was approximately 1,390 PSI at the datum shown.

Q Now, refer to Exhibit B-2, and explain this.

A Exhibit B-2 is a graph, showing the correlation between cumulative oil production from the Bar U-Penn and the reservoir pressure at a datum of minus 4,600 feet. You will note that the initial pressure in the Lario State B No. 1 Well was 3,174 PSI. At the time that the Roger C. Hanks Bridwell State No. 1 Well was drilled, the reservoir had suffered considerable pressure depletion, the measured pressure at datum being 2,340 PSI. This was on May 31, 1967.

At the time the Roger C. Hanks Bridwell State No. 2 was completed and a pressure taken on September 1, 1967, cumulative production of 32,879 barrels, the pressure had declined to 2,208 PSI.

Then you will notice the pressure which was measured upon completion of the Hanks Sinclair State No. 1 Well, this pressure taken in April, 1969, and it was 1,469 PSI at the stated datum.

The next point on the graph is the four well average for the wells tested in May, this average being as plotted, 1,357 PSI.

It is also shown here what I conclude to be the static pressure in the reservoir at that time, reading the extrapolation of the line to be 1,390 PSI.

Q What does the extrapolation or the end of the curve indicate there, the projection of this curve?

A I have projected what I feel like is a reasonable reservoir performance which can be expected in this particular reservoir down to a pressure of 48 PSI, representing what I calculate to be the optimum abandonment conditions, or abandonment pressure under optimum operating conditions.

Q That would also be the economic limit?

A This would also be the economic limit of production in the reservoir. This shows that upon depletion, complete depletion of the reservoir to the economic limit, approximately 670,000 stock tank barrels will ultimately be recovered.

Q Refer to Exhibit B-3, and explain that to the Commission?

A Exhibit B-3 is a calculation of the theoretical

reservoir pressure at abandonment, and I point out here that the abandonment conditions which are assumed in this case are what I would consider optimal. Under a minimum oil rate at the economic limit of 23 barrels per day, and using the Hanks Bridwell State No. 2 Well as an example, the fluid viscosity is estimated at that time to be six-tenth of a centipoise, formation capacity in millidarcy feet of 425, which was taken from the slope of the buildup curve, and a wellbore pressure, again let me point out this is under optimum conditions of zero, abandonment pressure in the reservoir for 160-acre spacing calculated by the formula to be 48 PSI.

Comparing this to the efficiency of recovery for 80-acre spacing shows the reservoir pressure under the same conditions of rate to be 46 PSI, showing, I believe, the efficiency of 160-acre drainage in this reservoir.

Q Would this indicate that 160-acre spacing is about as efficient as the 80-acre spacing?

A In my opinion, yes.

Q Do you have any further comment with respect to Exhibit 3?

A No, sir.

Q Refer to Exhibit B-4, and explain this.

A Exhibit B-4 is the reservoir data which was taken from performance of the field. The cumulative production on May 16, 1969, for the five wells currently producing was 277,579 barrels. The reservoir pressure at that time was 1,390 PSI. The reservoir pressure at abandonment under optimum conditions as calculated from the previous Exhibit is shown to be 48 PSI. The recovery factor or the slope of the line extrapolated in Exhibit B-2 is 294 stock tank barrels per PSI.

The remaining reserves, therefore, on May 16, 1969, are calculated to be 392,000 stock tank barrels; or for the current wells, the average remaining reserves are 78,400 stock tank barrels.

Q In your opinion, are the factors which you used here the best indication of the reserves?

A Yes, in my opinion, they are.

Q Are there any other factors which are normally taken into consideration in compiling reservoir data of this kind?

A Yes, volumetric data are often used in calculating oil in place and reservoir performance. However, when performance data is available and is reliable, which I

feel like the information presented on Exhibit B-4 is, then I think that the performance data are much more reliable and accurate.

Q Now, refer to Exhibit B-5, and explain this.

A Exhibit B-5 is a calculation of well economics for the Bar U-Penn Field for an average well with an 87 1/2 percent working interest. In the top portion of the table, I have calculated the field performance, showing the field performance having an ultimate recovery of 670,000 stock tank barrels.

Q That means initially before any wells were drilled?

A Assuming no depletion, and assuming all of the wells were drilled at the same time, from initial conditions. And under the recovery as shown in Exhibit B-2, for well spacing of 80-acres, there would be a total of ten wells drilled within the confines of the field as we know it now. The average ultimate recovery per well on 80-acres would be 67,000 barrels, for a gross revenue to the working interest of approximately \$201,000. Economic life of these wells would be very short, and I estimate this to be approximately two-and-a-half years.

With operating costs of \$2,060 per month, the total operating cost for the life of the well would be

\$61,750, leaving a total net revenue of \$139,250.

MR. NUTTER: Now, this operating cost of \$2,060 per month would be for the ten wells?

THE WITNESS: This would be for one well, sir.

MR. NUTTERS: \$2,000 a month to operate one well?

THE WITNESS: Yes, it is very expensive to operate in this particular location, because of the amount of problems which you have in lifting the amount of the volumes of fluid required.

MR. NUTTER: Do these wells make high volumes of water?

THE WITNESS: Yes, they do.

MR. NUTTER: And they didn't flow from initial completion?

THE WITNESS: No, sir, they have to be pumped with hydraulic pumps. And then you have the additional problem of salt water disposal, which is costly. Development costs, including a prorated cost of salt water disposal system per well of \$205,000, showing a net loss for that particular development of \$65,750.

Using the same ultimate recovery on 160-acre spacing, and a maximum density of five wells, the net profit from an average well in this field should be \$73,500,

as shown in the next column.

Q (By Mr. Hinkle) Is the development costs of \$205,000, is that a realistic cost of the drilling and equipping of these wells, and pro-rata part of the water disposal cost?

A I believe it to be representative. I have not audited the records but these costs figures have been supplied to me, and based on my experience and the experience of other operators in the area, I feel like it is representative.

Q Now, all these figures are based upon the operator having an 87.5 working interest. Is it true that in most instances in this area that the operator has that much interest?

A It is true that in this area, I don't believe there is a single lease where the working interest is 87.5. It ranges from, I believe downward from that to 75 percent.

Q So where the operator has less than an 87.5 interest, why the net profit factor would be -- the loss would be considerably greater?

A Yes, that's right. It might be pointed out in making these calculations, I have assumed, for example,



in the defining of ultimate recovery for the field, that this was abandonment under optimum conditions, so I believe that I have taken the maximum viewpoint.

MR. NUTTER: Did you make a volumetric calculation of the total original oil in place?

THE WITNESS: No, sir, I did not in this case.

MR. NUTTER: So there is no actual comparison, then, of original oil in place with this 670,000, so we could get some sort of recovery factor that would come in here?

THE WITNESS: I think that previously Mr. LeMay has testified that he did prepare a volumetric study of the reservoir, and it is a matter of record. This would be Exhibit A-8. He calculated the original oil in place of 269 barrels per acre foot.

MR. NUTTER: We don't have a total figure for the Pool, however. But you are estimating that the Pool would contain 800 acres, is that it? You have ten 80's, or five 160's?

THE WITNESS: Approximately 800 acres, yes.

MR. NUTTER: So he has 269 barrels per acre foot, and a ten foot thickness, and you have 800 acres, so we ought to be able to arrive at the total oil in place. We

will do that later.

THE WITNESS: All right, sir.

Q (By Mr. Hinkle) Go ahead with a further explanation of Exhibit B-5.

A I have taken in the bottom portion of Exhibit B-5, the calculation of gross income for an average well with an 87 1/2 percent working interest, assuming it was drilled and completed on May 16, 1969, and that the remaining reserves at that time were 392,000 stock tank barrels.

On 80-acre spacing, the average remaining reserves would be 39,200 barrels per well, for a gross revenue of approximately \$117,500. Assuming an economic life of two years, and the same operating costs as explained previously, the total net revenue to this well, to the working interest of this well would be \$68,000, and development costs of \$205,000, the net loss on this operation would be approximately \$137,000.

These figures in the next column also show that on 160-acre spacing that a well drilled at that time would be uneconomic, with a net loss of \$69,000 under these conditions.

Q Now, from your study and your testimony here, have you formed an opinion as to whether one well will

effectively and efficiently drain as much as 160 acres or more?

A It is my opinion that one well will drain efficiently in this reservoir at least 160 acres.

Q Now, in view of your testimony in connection with Exhibit B-5, would you as a Consulting Engineer recommend to a client the drilling of wells on 80-acre spacing in this Pool?

A No, sir, I would not.

Q Is it your opinion that if the undrilled 80-acre spacing units are drilled, that it would cause resulting loss to all the operators in the Pool?

A Yes, sir. Drilling on 80-acre spacing at this time, I believe, would result in loss to all the operators.

Q Do you have any recommendations to make to the Commission with respect to the type of special field rules to be adopted by the Commission in this Case?

A I would recommend that 160-acre spacing on Governmental quarter sections be authorized in this field, with an 80-acre depth factor, with the provision for the operator to drill any 40-acre location within that Governmental quarter section.

Q In your opinion, would the adoption of these

rules be in the interest of conservation and the prevention of waste, and tend to protect correlative rights?

A Definitely.

Q And it would prevent the drilling of unnecessary wells?

A Yes, sir.

Q Do you have any further comments to make with respect to these exhibits?

A No, sir.

Q Are you familiar with Exhibit A, which is a composite exhibit of nine parts that was introduced originally at the Hearing on May 7th?

A I have had the opportunity to examine these exhibits, and had the opportunity to discuss them with Mr. LeMay.

Q And you had made an examination at the time you prepared your exhibits?

A That's right, yes.

MR. HINKLE: We would like to offer in evidence Exhibits B-1 through B-5.

MR. NUTTER: Applicant's Exhibits B-1 through B-5 will be admitted in evidence.

(Thereupon, Applicant's Exhibits B-1 through B-5 were admitted in evidence.)

MR. HINKLE: I believe that is all the direct examination.

MR. NUTTER: Any questions of Mr. Sipes?

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Sipes, in connection with your Exhibit No. 4 on reservoir data, that is based solely on production history, as I understand it, is that correct?

A Yes, sir.

Q You don't show --

A Production and pressure.

Q Production and pressure. As a matter of fact, all your exhibits are based on production and pressure?

A Yes, that's correct.

Q And you don't take into consideration water production at all, is that correct?

A I have not shown here the total volume of water produced.

Q Do you know what the total volume of water produced is?

A No, sir.

Q Do you know what the GOR on these wells is?

A According to production data, the gas-oil ratio

is running approximately 1,000 cubic feet.

Q 1,000 to one?

A Yes, sir.

Q Has that been stable throughout the life of the Pool, or has it increased or decreased?

A To my knowledge, it remained relatively constant.

Q You feel it is a constant figure. In your opinion, what is the producing mechanism in this reservoir.

A The producing mechanism in this reservoir, I believe, is a combination perhaps of fluid expansion, and perhaps some movement of water.

Q So water could be a factor in the production from this Pool, could it not?

A It could be a factor, yes.

Q In that connection, then, would it not be more proper to project your production on the basis of cumulative fluid production versus pressure, rather than cumulative oil production alone?

A To my knowledge, the ratio of water to oil production in individual wells has not varied to such an extent that it would be necessary, I don't believe, for a reasonably accurate determination of reservoir performance, to go back and calculate total fluid production versus

pressure. I might also point out in the same vein that the water production in the individual wells will very likely stay high throughout the life of the field.

Q Have you made an examination of the water versus oil production in this Pool, Mr. Sipes?

A No, sir.

Q So you don't know whether it has increased or declined, do you, or remained the same?

A From my examination of the information on the recent production, as opposed to some of the initial tests, I had concluded that it had remained relatively the same. I mean there is not a great deal of difference.

Q But you didn't actually examine the water pressure?

A No, sir.

Q Now, you said there were five wells shut-in for the purposes of these tests. Was the McGraith and Smith well shut-in?

A The McGraith and Smith well at that time had not penetrated the formation.

Q So it did not enter into the test?

A It did not enter into the test.

Q Do you have any pressure information on that

well?

A No, sir.

Q It has had a drillstem test, has it not?

A I understood that they were to take one. I don't have the information on them.

MR. NUTTER: Give me the location of that well, Mr. Kellahin?

MR. KELLAHIN: It is two locations north of the Bridwell State -- it is a diagonal to their B No. 2 Well.

MR. NUTTER: Is this the well that was shown as a drilling well in the original Hearing, in the southwest of the southeast of Section 36?

MR. KELLAHIN: Yes, sir.

MR. NUTTER: There is a drillstem test on that well at the present time.

MR. McELVANEY: That is not the well. It is in Section 25, McGraith and Smith to the north.

MR. NUTTER: That would be two miles to the north.

MR. McELVANEY: No, sir. I am sorry, you are right, in Section 36. I'm sorry, yes, you are correct. Excuse me, you are right.

MR. KELLAHIN: That is the well you are referring to, yes.



Q (By Mr. Kellahin) But you haven't seen the result of that drillstem test?

A No, sir, I have not.

Q Did you make any effort to get it?

A No, sir, I was not aware that it had been taken until, I believe, or was planned until Monday. I didn't know the well was down until Monday.

Q In connection with your Exhibit B-1, Mr. Sipes, you said that was extrapolated to a common datum. What datum did you use?

A Minus 4,600, as shown at the top of the column on the right, sir.

Q And that is the same datum used on the other well which was not tested?

A Yes, sir, I did extrapolate that pressure to this same datum.

Q So all of them would be extrapolated at the same datum?

A Yes, sir. In previous testimony, I believe that particular pressure was reported at 1,505 PSI; but to this datum, it calculates 1,469.

MR. KELLAHIN: That is all I have. Thank you.

MR. NUTTER: Mr. Lemay, in preparing your Exhibit

A-6 for May 7th, you showed the pressures of the various wells at the time they were drill stem tested. Those were the actual pressures, those weren't extrapolated to any datum?

MR. LEMAY: No, they are very close to minus 4,720.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Sipes, in computing your abandonment, you took the well down to, I believe it was 23 barrels per day on Exhibit B-3?

A Yes, sir.

Q Would 23 barrels per day be sufficient to meet this monthly operating cost of \$2,060?

A Yes, sir.

Q In calculating these revenues, did you take into consideration the value of the gas produced?

A Yes, sir, I did. Approximately 18 cents, 15 to 18 cents per Mcf.

Q What were you using for the volume of gas that would be produced?

A About one Mcf per barrel.

Q One Mcf per barrel throughout the life of the pool?

A Yes, sir.

Q And the gas at 18 cents per Mcf?

A That would be 17. I believe the price of oil in the field at this time being paid is \$3.26.

Q Is the gas being sold from the wells at the present time?

A Yes, sir.

MR. NUTTER: I believe that is all. Thank you. Did you have another witness?

MR. HINKLE: No, that is all.

MR. NUTTER: If there are no further questions of the witness, he may be excused. Do you have anything further?

MR. HINKLE: No.

MR. NUTTER: Mr. Kellahin, will you go and do call a witness?

MR. KELLAHIN: May I have a moment here?

(Thereupon, McElvaney's Exhibits R-1 through R-7 were marked for identification.)

CONRAD APPELDORN,  
called as a witness by Eugene McElvaney, having been first  
duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A Conrad Appeldorn.

Q In what business are you?

A Consulting Engineer.

Q Where are you located?

A In Roswell, New Mexico. My home is in Artesia.

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

A Yes, sir.

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

MR. NUTTER: Yes, they are.

MR. KELLAHIN: Do you have any questions, Mr.  
Hinkle?

MR. HINKLE: No.

Q Mr. Appeldorn, in connection with Case 4121  
presently before the Commission, were you retained by

Mr. McElvaney to do some work on this Case?

A Yes.

Q Have you made a study of some of the reservoir data that has been made available to you?

A I have studied this data and what was presented this morning. I haven't made any deep study of it.

Q Of this particular Pool, you haven't made an extensive study, but you did make a study of the data available to you?

A Yes.

Q Referring to what has been marked as Exhibit R-1, would you identify that exhibit?

A Exhibit R-1 was prepared by Mr. Ralph Viney for this Hearing. In this Exhibit, he has listed the pressure data that was provided him by Mr. Hanks, and he has extended those data to a datum. This datum is different from the one used by Mr. Sipes. It is minus 4,794, which is the depth of the lowest well in the field. I have recalculated Mr. Sipes data, based on these gradients, and there is a very slight difference. However, they are quite similar.

Q Would you consider the differences significant?

A No.

Q In other words, the pressure data would be in agreement substantially with that offered by Mr. Sipes?

A Yes, sir, these pressures at these two datums are substantially in agreement.

Q Referring to what has been marked as Exhibit R-2, would you identify that exhibit?

A Exhibit R-2 is again a listing of the pressures, the initial pressures that were measured in the wells as they were drilled in the Bar U Field. These again have been extended to the same datum listed in Exhibit 1. These pressures ranged from September of 1963 through May of 1969, and they are initial pressures as, I believe, shown on drill stem test.

Q Those would be recorded with the Oil Conservation Commission?

A Yes, they are.

Q Referring to Exhibit R-3 and R-4 on the same sheet, what information is shown on that?

A Exhibit No. 3 is an extension of the data that are listed in Exhibit No. 2. These have been correlated with the cumulative productions from the Field as of the date that the pressures were taken, both cumulative fluid, including oil and water, and cumulative oil. He also lists

the Delta pressure or the change in pressure from the original bottomhole pressures listed in September of 1963.

Exhibit No. 4 was to have been a compilation of buildup pressures that were to have been taken by Mr. Hanks. However, it is my understanding that the way the pressures were taken, there was no buildup and, therefore, Mr. Viney said that he combined it with this Exhibit.

Q No buildup pressures was made available to you?

A No, that's right.

Q Referring to Exhibit R-5, would you identify that Exhibit?

A Exhibit R-5 is a log log graph upon reasonably close to linear of the cumulative oil and cumulative fluid productions, based upon the Delta pressures as shown on Exhibit No. 3. These show a projected ultimate oil based on the upper curve of 950,000 barrels, and a projected ultimate total fluid recovery of 2,100,000 barrels. Now, these fluids are from the existing wells.

Q This is a calculation based on the wells presently producing from the Pool?

A Yes, from the wells presently producing in the Field.

Q Does that include the McGraith and Smith Well?

A No, that is a new well and has not been produced.

Q It does not include it on this information. Mr. Appeldorn, you heard Mr. Sipes testimony that he had not taken into consideration cumulative water production in making his calculations of reservoir performance. Do you consider that water production is significant in this Pool?

A I think that water production in the Bough C Field is vitally significant. Very few of these fields, at least to my knowledge, the ones that I have looked at, none of these fields exhibit a through depletion drive performance, when gas-oil ratio oil production, all of the factors that are normally considered are brought into play, and this field is no exception. We have very high water production initially in each well, no matter at what time it was completed, whether it was completed in September of 1963 or May of 1969, the water production is quite high. It begins to drop with time. The gas-oil ratio history in this field does not follow at all the normal depletion drive gas-oil ratio history.

Q You heard Mr. Sipes testimony that the gas-oil ratio he understood was about one-thousand-to-one, would



you agree to that?

A Yes.

Q And I believe he also testified that he thought it was fairly stable?

A I think that history is for any Bough C Field, whether in this area or for the south is fairly common.

Q In fact, it has remained stable, is that a factor in your conclusion that it is not a solution gas drive reservoir, primarily?

A Well, in part it is depletion drive, but there also have to be other factors that are considered, namely water production, and the encroachment of water, I believe, that is an effect on it.

Q Now, would that fact make a difference in the calculation of ultimate production of oil from this reservoir?

A I think Mr. Viney's projections, taking this into account, could be accepted, because he does make a projection on the basis of total water production, total fluid production.

Q Referring to what has been marked as Exhibit R-6, would you identify that exhibit?

A Exhibit R-6 is again a production on the basis of cumulative fluids versus cumulative oil production. It

takes into account the watercut. In his projection, Mr. Viney has made two, I should say, inclinations there in the line, one assuming a continuing reduction in watercut throughout the life of the field in which he has derived a possible ultimate oil recovery of 970,000 barrels. In his projection, assuming a constant watercut from present performance, he has a projection of 1,300,000 barrels, which is twice -- I believe these values range from 50 percent to 100 percent greater than Mr. Sipes.

Q Now, referring to what has been marked as Exhibit R-7, would you identify that exhibit?

A Exhibit R-7 is a history of the oil, water and total fluid production beginning since 1966.

Q And that is your understanding of the basis of the calculation of the graphs?

A Yes. Exhibit No. 7 is the data presented graphically on No. 6 and also on No. 5.

Q Now, you have not had an opportunity to study the economics of this Pool, have you?

A We have made no economic projections. I haven't had time, myself, and my differences with Mr. Sipes in this fact are only one of degree. I believe I would point out that in my experience the wells that I have drilled

and been engaged in, our development costs have ranged from \$165,000 to \$180,000, instead of \$205,000; and I would take the operating costs at from \$750 to possibly, if he has a lot of pump trouble, as high as \$900 a month, plus water disposal. I figured this watercut fairly close to Mr. Sipes figure, depending on the amount of water they dispose of. Just on a basic rule of thumb estimate, I usually accept about \$1,200 to \$1,500 a month, just for a quick analysis on these fields, which is somewhat less than he is carrying.

MR. HINKLE: You are talking about the operating costs?

THE WITNESS: Yes.

Q Mr. Appeldorn, you are familiar with the statute covering the creation of proration units by the State of New Mexico, are you not?

A Yes.

Q And you know that the statute requires the Commission to create a unit that can be efficiently and economically drained and developed by one well?

A Yes.

Q And in addition, the Commission is enjoined to protect the correlative rights of the operators in entering any Order?

A Yes.

Q On that basis, in your opinion, will one well efficiently and economically drain and develop 160 acres in this Pool?

A I think on the basis of the data presented here on these wells, I don't think it has been proven either that it could or could not drain 160 acres. The reason for that is that in this field -- I have some rather deductive reasoning here -- the only way that we could actually prove in this particular field or any of these Bough C Fields, 160-acre drainage is on the basis of interference tests, and these are long term and expensive. If we had taken these pressures in the Devonian or Ellenberger Fields, there wouldn't be any question. If we take these pressures in some of the sand fields in this State where we have continuity of reservoir demonstrated by cross-sections, and everything else, there wouldn't be any question in my mind that this is a full 160-acre reservoir.

In the Penn, in the Wolfcamp, in certain other reservoirs with which we are all familiar, I think there is a great deal of question whether or not these wells will actually drain 160 acres.

Q You are aware that this Pool has been produced since 1966?

A Yes.

Q On that basis, to change the spacing of the Pool at this date, will that protect the correlative rights of the offsetting operators?

A In my consideration, it would not.

Q Mr. Appeldorn, you did not prepare the Exhibits that have been presented here?

A No.

Q Have you examined them?

A I have examined them, and I agree with them.

Q You do agree with them?

A Yes.

MR. KELLAHIN: At this time, I would like to offer in evidence Exhibits R-1 through R-6, inclusive, there being no R-4, as such.

MR. NUTTER: You identified R-1 through R-7.

MR. KELLAHIN: R-1 through R-7, I'm sorry.

MR. NUTTER: They are identified as McElvaney's Exhibits R-1 through R-7, with the exception of R-4, will be admitted.

MR. HINKLE: We would like to object to these Exhibits on the ground that they have not been prepared by Mr. Appeldorn, and they have not shown why -- apparently

his testimony shows they were prepared by Ralph Viney, and no showing has been made as to why he is not here to testify.

MR. KELLAHIN: If the Examiner please, the witness has testified that he examined the data contained on these, and he does agree with it, and certainly we submit him for cross examination on the exhibits.

MR. NUTTER: Well, we will admit the exhibits, Mr. Hinkle. It will be up to the witness to defend them.

Q (By Mr. Kellahin) Mr. Appeldorn, have you any information on any drill stem tests on the McGraith and Smith Well in Section 36?

A Mr. McElvaney and his partner attempted to get this data, and they were told it was tight. They obtained it at the same time, a figure, that showed 400 feet of oil and 4,700 feet of water. This would indicate a pressure in the McGraith and Smith Well of something over 2,400 pounds.

Q Have you anything else, Mr. Appeldorn?

A No.

MR. KELLAHIN: That completes the direct examination of the witness.

MR. NUTTER: Any questions?

## CROSS EXAMINATION

BY MR. HINKLE:

Q When was that information or these exhibits first presented to you for study?

A Yesterday.

Q And you have just taken these exhibits at face value?

A No, I am familiar with the area. In fact, about two months ago, we did, the man with whom I am associated and I did some work in that area, and in neighboring fields.

Q Do you know Mr. Ralph Viney?

A I have never met Mr. Viney. I have talked to him several times.

Q You don't know how he obtained the information that this shown on these exhibits?

A Not directly, no. Parts were furnished, I was told, by Mr. McElvaney, that they were furnished to him. I was told by Mr. Viney that he testified the pressure data in the field from Mr. Hanks representative. Certainly, it agrees with the data that has been shown by Mr. Sipes.

Q Have you made any other independent study of the Bar U Pool?

A Not of the Bar U Pool, no sir.

Q Have you made a study of any of the other pools in Lea County, or southeast New Mexico, producing from the Bough C formation?

A Yes, sir, I have. I have made a cursory study of the Tobac, Flying M, North Bagley, Middle Lane, Inbe, South Lane, the Vada Pool, certain Bough C horizons on the east end of the Allison.

Q Isn't it a fact that it is common knowledge that wells producing from the Bough C formation will drain wide areas?

A We'll drain wide areas? Well, you have to -- on a geological basis, you are going to have to limit that.

Q Isn't it true that a lot of the wells producing from the Bough C formation have produced considerably more oil under the 80 acre allowable than under the 160 acres?

A This is quite common with any Penn Field in southeast New Mexico. Volumetrics in the Penn zone are virtually useless. This is my own opinion.

Q Doesn't that indicate a wide drainage area?

A Not necessarily. The ordinary net oil calculation that is made on a volumetric study doesn't take into account these variations in permeability, porosity. The heterogeneous nature of the formation such as the Penn and the Wolfcamp,



to my mind, is somewhat similar to it. Personally, I think this is part of the reason from the study I have made.

Q Isn't it true in three pools so far the Commission has granted 160-acre spacing with 80-acre allowable?

A I am not against that at all.

Q You think the Commission is wrong in making findings that they did that one well would drain, efficiently drain more than 160 acres?

A I think there are other reasons than pure drainage involved. I think in many cases pure economics is involved.

Q Can you point out any characteristics of this Pool, the Bar U Pool, that are any different from the Jenkins, the Vada or Middle Allison Pool?

A No, they are quite similar.

Q I believe you testified that you were pretty well in agreement with the economic aspects as offered by Mr. Sipes?

A Except for the total volume of oil that will be produced.

Q Except for the well costs?

A Well, a slight difference in well costs.

Q And also the operating costs. Now, you said that the well costs, in your opinion, should run \$165,000, \$185,000?

A Yes.

Q Does that take into consideration that you have to allow for a salt water disposal system?

A Yes.

Q Have you made an independent investigation to know what the actual well costs are in this area?

A I have drilled, I have been involved in drilling quite a number, yes.

Q In this field?

A In the Bar U Field -- not in the Bar U, but in the Vada and Middle Lane, Bagley, these other areas. They are all quite similar. The drilling conditions are similar. The big costs, the water disposal will pose some problem, but in those areas where water disposal systems have been installed on a relative basis, there is not going to be a great deal of difference in installation cost.

Q I believe you testified that the operating cost would be considerably lower than that indicated by Mr. Sipes.

A My experience has been that they are going to be

somewhat lower.

Q Do you have any actual knowledge or experience of operation in this area?

A Not in the Bar U-Penn Field, no sir.

Q So your opinion is simply based on conjecture?

A It is based on my own experience, not on conjecture. It is based on --

Q Of other areas?

A Of close neighboring areas, and closely allied production, very similar production. I mentioned that because if I did calculate the economics, I would use those figures. Now, I also stated I believe that I consider the differences to be reasonably slight. Now, the development cost that Mr. Sipes used versus the development cost that I would use would have no effect, essentially, on any future income, because it is a capital cost, it is the initial cost of the well. The operating costs would have more of an effect. If I use, for instance, \$1,500 or \$1,600 a month versus his \$2,000, that would be that much more in the operator's pocket. So that would have more of an effect.

Q I believe you testified it would have been desirable to take some interference tests?

A Yes. In my opinion, it is the only way that you could prove continuity between wells in this field.

Q Now, that is even in the face of the fact that when they made this pressure survey in May, that all of the wells turned out to be approximately the same?

A Absolutely.

Q Isn't this uniformity of pressure one of the best indication you have that one well will drain a large area?

A A connection somewhere within that reservoir. Whether it is downdip, updip, in the field, you don't know. This continuity in pressure or this pressure depletion is very common in the Bough C Field, itself, quite common. Now, the fact that there is pressure communication in this area is shown by the Lario State B No. 1, I believe, which was drilled in 1963. The initial pressure that was given to me was 3,140 pounds, which shows a tremendous drop, 1,300 pound drop from what one can consider to be normal Bough C pressure. This was a new well in a new field, and yet it has experienced a tremendous pressure drop on an areal basis, simply because you have production anywhere up to, oh, I'd say five miles away in the Tobac Field, and in neighboring fields.

Q Do you agree with Mr. Sipes figures with respect to the percentage of depletion of this field at the present time?

A No, I don't believe on the basis of water production and gas-oil ratio history, that it has achieved this depletion that Mr. Sipes has given it. He shows his maximum remaining reserves of 392,000 barrels, roughly 50 percent oil depletion.

Q What do you show?

A Well, we show less than -- at the minimum figures that Mr. Viney gave here, we would show 50 percent more oil -- or 100 percent more oil, roughly one-fifth depletion, twenty percent depletion. Gas-oil ratio history on the basis of depletion drive performance, gas-oil ratios at that point that Mr. Sipes gives should be on the order of 3,000, 3,500 to one.

The gas sales from the field, and adding in the gas used for the operation, lease operation would bring the gas-oil ratio of these wells not over 1,200.

Q Would you be willing, from your study of this area, from all of the information available, would you be willing to recommend that Mr. McElvaney or any other client of yours, that they buy Mr. Hanks wells based upon

your calculation of the remaining reserves?

MR. KELLAHIN: If the Examiner please, the question calls for a conclusion that is not in issue before this Commission. The question of purchasing oil production is a matter that takes into consideration a great many factors other than remaining reserves. Now, if he is going to base it solely on the question of remaining reserves, based on his calculation, I have no objection. But he says does he recommend that he buy it, that is an entirely different question, and we object to it.

MR. NUTTER: Your question still stands, Mr. Hinkle?

MR. HINKLE: I will withdraw the question.

Q You are willing to recommend now to Mr. McElvaney that wells be drilled in this area on 80-acre spacing based upon the remaining reserves?

A I think I'd point to him the dangers involved.

Q What are the dangers involved?

A He is drilling relatively close to an offsetting well. He is attempting to protect his correlative rights. He may or he may not find a depleted reservoir. On the basis of the information that we have, there is simply no way really that we can tell.

Q So there is a calculated risk involved?

A There is a calculated risk involved.

Q And if he should take that risk and his recovery should be considerably lower than your estimate, it would cause a loss, would it not?

A I think on the basis of these recoveries, I feel that he could have a break-even on that basis.

Q Whether he broke even or had a loss would not only cause a loss to him, but the other operators in the field?

A I don't think it would necessarily cause a loss to the other operators, no. Mr. Hanks one well might be affected.

Q Well, it affects the total recovery from the field?

A You are speaking of the location that Mr. McElvaney has staked?

Q Yes.

A I might point out that if this feeling was really strong among all operators, that that McGraith and Smith Well would not have been drilled.

Q Now, aren't there other ways that he can protect his correlative rights that you referred to, that is by

joining or pooling his interest in the event of 160-acre spacing with other acreage?

A Absolutely. If this field was in the initial stage of development, that is exactly what I would recommend. However, he is coming in two years after development. Now, the 160-acre spacing normally, the procedure is to approach the Commission when the first well is drilled, and in that respect the Commission has been very good on it. And then your field development can extend very orderly, and with complete protection of correlative rights, of reservoir conditions, you can take everything into account. In this case, I honestly -- this hasn't been done. There are other factors here that have to be considered.

Q Do you know whether or not Mr. Ralph Viney was present in the field when these tests were made?

A I don't believe he was.

Q Do you know how he obtained the information from which these plats are based?

A I understand that his representative was present in the field, his and Mr. McElvaney's representative, and they were shown the charts in the field.

Q Who was that representative?

A I don't --



MR. KELLAHIN: It is on this letter.

A I was told that they were shown the charts in the field.

MR. KELLAHIN: It was supplied to Mr. Legender who was representing Mr. Viney.

Q (By Mr. Hinkle) In your experience as a Consulting Petroleum Engineer, have you ever used a plot or graph like that that Mr. Viney has prepared as Exhibit No. 5?

A The Delta pressure plot, I made that a few times. I don't use that too commonly. You are working with pressures, and really, whether you use the Delta pressure or the absolute pressures, I don't believe there would be too much change.

Q You said you had drafted on a few occasions similar exhibits to this, is that right?

A Yes.

Q Does this kind of a graph have any validity, in your opinion, in this case?

A The Delta pressure plot, yes, I believe so. It can be used. The most important one is this No. 6, which relates it to watercut.

Q Is that particularly true in view of the plot

of the pressures against cumulative production?

A I beg your pardon?

Q Is this true in view of the plot of pressure versus cumulative production?

MR. KELLAHIN: Is what true?

MR. HINKLE: Well, I believe that is all.

#### CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Appeldorn, on this Exhibit No. R-5, Mr. Viney has plotted the Delta pressure versus cumulative production. Now, I presume that this first point right here that we had at approximately 270,000 barrels, that would be the pressures as of the recent survey, wouldn't it?

A No, the pressure as of the recent survey is the 1,500 pound pressure drop, in May of 1969, the Lario State B-1, 1,454 pounds.

Q I am on Exhibit R-5.

A Yes. Well, the data on Exhibit R-5 is taken from the data on Exhibit No. 3.

Q Is this on one well? Is this change in pressure on one well?

A Yes. Well, he used the pressure in the Lario. All of the pressures are quite close. For a cumulative plot,

he had to use one well's pressures since inception.

Q So he took this first Delta P in May of 1967, and he had 533 pounds pressure drop?

A Yes.

Q So that would be his first point over here on the left on pressure drop versus cumulative oil?

A Yes, May, 1967.

Q At that time, the well had produced 27,000 barrels of oil?

A Yes. And 156,000 barrels cumulative fluid.

Q What did he take his pressure drop to, what is the total Delta P there? It is somewhat less than the original pressure calculated at 2,967?

A At which pressure drop was that?

Q He goes up to a maximum Delta P, the point where he drops his Lario down to 950,000 barrels. What was his --

A He used 200 pounds as abandonment pressure.

Q He had an average pressure of 2,967, so he had a maximum Delta P, then, of 2,767?

A Yes.

Q If you put it on Delta P versus total fluid produced, which would be oil and water, and also gas --

A He did not consider gas.

Q Gas is not included in that?

A That's right.

Q And then you have an estimated ultimate recovery of 2,100,000 barrels?

A Yes.

Q But this is all taken from the original bottomhole pressure on the Lario B State No. 1 of 1967?

A Yes.

Q Now, the original pressure as reported at the May 7th Hearing for that Lario State B No. 1 is some 3,150 pounds, I believe, as depicted on Exhibit 6 in brochure No. A?

A That was taken at completion in the drill stem test.

Q Is this 2,967, that pressure converted to the datum of 2,794?

A Yes, that is converted, extrapolated to that datum.

Q Now, I would like for you to go through again very briefly the two extrapolated dashed lines on Exhibit R-6.

A His first extrapolation of the long dashes, he assumed a watercut remaining constant as indicated by the slope of the line immediately preceding the extension.

Q In other words, that is the extrapolation of the existing line?

A Yes. Now, the data from the field indicated declining watercuts. When you examined this data, it indicates -- and also the history in the Bough C Field indicates that throughout the life you will get a decline in watercut.

Q I suppose you are referring to Exhibit R-7, then?

A Yes.

Q Particularly the last three months -- or the first three months of 1967, where your watercut has decreased?

A Yes, 1969.

Q 1969?

A So he extended the short dashes, based on a supposed decline in watercut. And this figure comes up pretty close to --

Q What decline was he using there, do you know?

A I don't know, no sir.

MR. NUTTER: I believe that is all. Do you have any further questions of your witness, Mr. Kellahin?

MR. KELLAHIN: That is all I have.

MR. HINKLE: No more questions.

MR. NUTTER: If there are no further questions of Mr. Appeldorn, he may be excused.

Did you want to recall your witness, Mr. Hinkle?

MR. HINKLE: I would like to put Mr. Sipes back on for one or two questions.

L. D. SIPES,  
recalled as a witness by the Applicant, having been previously  
duly sworn, was examined and testified as follows?

DIRECT EXAMINATION

BY MR. HINKLE:

Q Mr. Sipes, you have heard the testimony of Mr. Appeldorn, have you not?

A Yes, sir.

Q Did you hear his testimony with regard to Exhibit No. 5?

A Yes, sir.

Q Refer to his Exhibit No. R-5, and explain to the Commission why, in your opinion, this particular exhibit has no validity in this Case?

A I would like to, if I may, explain that if a plot on a log log paper, as this Exhibit R-5 is, if it is valid, you should be able to smooth out a lot of data. This is what

it is used for. It also should very closely approximate a straight line on coordinate paper. And I would like to compare that exhibit which is shown there with my Exhibit 2, which also shows a straight line, but there is a considerable difference in the amount of resolution of the final answer which is possible with Exhibit 2, as opposed to a log log plot which is used in Exhibit R-5.

Q Is this type of exhibit, R-5, frequently used in a Case of this kind?

A No, sir, not to my knowledge. I have never used this type of plot.

Q Have you known other engineers, petroleum engineers, to use this type of exhibit?

A No, sir, I don't believe so, not as a regular tool in reservoir analysis.

Q Do you have any further comments with respect to Exhibit R-5?

A No, sir.

MR. HINKLE: That is all we have.

MR. NUTTER: Are there any questions of Mr. Sipes?  
You may be excused.

Does anyone have any further testimony to offer in this Case?

MR. KELLAHIN: No.

MR. NUTTER: Do you have a statement, Mr. Kellahin?

MR. KELLAHIN: Yes, I do. I don't intend to belabor the testimony which has been offered in this Case. I think the Examiner has been exposed to both sides of this question thoroughly, and understands what the difference is in the testimony. I would point out that as Mr. Appeldorn testified, that the ideal situation is in a pool of this nature, in order to protect correlative rights, you apply for your 160-acre spacing early in the life of the field.

While this is repetitious over what I said at the last Hearing, I want to again point out that the Roger C. Hanks Bridwell State No. 1 was completed on May 26, 1967, and his No. 2 was completed in November of 1967, and in the month of November the Case was set for 160-acre spacing. We have quite a different situation today in connection with the protection of correlative rights. Mr. Hanks has in this particular area, the north half of the northwest quarter of the Section and the south half of the northeast quarter of the Section. At one time he had a farm-out on the remaining north half of the Section, but today Mr. McElvaney has the south half of the northwest and the north half of the northeast. If he is going to be given



any opportunity to produce his fair share of the oil and gas underlying his tract, as is required by the statutes of the State of New Mexico, we submit the only way he can do it is on the basis of 80-acre spacing permitting him to go in and drill.

He has filed a Notice of Intention to drill, which has been approved by the Commission. He is taking no action, of course, pending the outcome of this Case. But as of today, if this is approved, the Applicant doesn't have 160 acres to dedicate to the well in the form of a standard proration unit, and we submit that in order to protect the correlative rights of Mr. McElvaney, the Commission should deny the application. In addition, we feel the testimony that has been offered on behalf of Mr. McElvaney clearly shows that if one well will drain 160 acres, that conclusion is a dubious one at this time, and without pressure interference tests, you cannot be certain that the well will drain 160 acres.

We also have shown, we feel, that it is economical to drill and develop this Pool on 80 acres and that is a factor that must be considered by the Commission in arriving at a spacing Order.

MR. NUTTER: Mr. Hinkle:

MR. HINKLE: In my opinion, the Commission has the right at the present time to have a Hearing to determine what the spacing of the field will be. This has been done many times in the past history of the Commission. It doesn't make any difference what the state of development of the Pool might be. The Commission is required on a Hearing to determine whether or not one well will effectively and efficiently drain 160 acres. And if it is economically feasible to develop it on the spacing which existed at that time, they can determine that wider spacing should prevail.

In order to prevent economic loss in this particular Case, as has already been stated, we had the preliminary Hearing, and the Examiner requested at that Hearing that a survey be made to determine the pressure data, which was done at a great deal of cost to the operators in the field, and it turned out that the pressures are somewhat the same uniformly. I think the experience of the Commission has been, and the testimony here is to the effect that in the case of this kind where you have drop in pressures and they all reach about the same level, that it is pretty conclusive evidence that one well will effectively and efficiently drain 160 acres. Even the testimony offered on behalf of Mr. McElvaney shows that

the drilling of a well at this time on 80 acres would be a very risky venture. I think this is a good opportunity for the Commission to enter an Order for 160-acre spacing to prevent further economic loss, because it is very evident from the experience that Mr. Hanks has had in this case, that if this field is developed on 80-acre, it will cause a big loss to him, as well as other operators.

As far as the protection of the correlative rights are concerned, the owners of the other 80-acres which were not drilled, and on account of which Mr. McElvaney has obtained a farm-out, had a right to do in and drill wells at the beginning and protect their interests, and they elected not to do this. That is no fault but their own. At this time, Mr. Hanks has offered to voluntarily communitize with the other 80 acres, and if they do not voluntarily come in, we can ask the Commission to force pool. So I think the correlative rights have been adequately protected, and will be protected by entering an Order for 160-acre spacing.

MR. NITTER: Thank you both. If there is nothing further in Case 4121, we will take the Case under advisement, and call a fifteen minute recess.

MR. HINKLE: If the Examiner please, if any

correspondence subsequent to the last Hearing is going to be considered by the Commission in this Case, we would also like to submit a copy of a letter dated May 12th, signed by Roger C. Hanks, which we are informed was directed to other operators in the area, a soliciting letter. I think this should be considered in connection with the consideration of any letter that have been received.

MR. NUTTER: We will make that notation in the record of the nature of these telegrams. We have one from Midwest supporting Roger C. Hanks. We have one from Union of California supporting the application of Roger C. Hanks. We have a letter from Pan American here which supports Roger C. Hanks.

MR. KELLAHIN: I would like to point out also that none of those are operators in the Bar U Field.

MR. NUTTER: And we also have the letter from Roger C. Hanks, dated May 12th.

We will take the Case under advisement.

I N D E XWITNESSPAGE

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STATE OF NEW MEXICO )  
 ) SS.  
COUNTY OF BERNALILLO )

I, SAMUEL MORTELETTE, Court Reporter 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.

*Samuel B. Mortelette*

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 4121,  
heard by me on 6-4-1959.

*James* Examiner  
New Mexico Oil Conservation Commission

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

May 21, 1969

EXAMINER HEARING

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JUN 12 1969

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IN THE MATTER OF:

(Continued from the May 7,  
1969 Examiner Hearing)  
Application of Roger C.  
Hanks for special pool  
rules, Lea County, New  
Mexico.

Case 4121

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 4121.

MR. HATCH: Continued from the May 7, 1969  
Examiner Hearing application of Roger C. Hanks for  
special pool rules, Lea County, New Mexico.

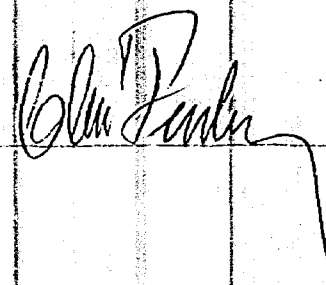
I would like to recommend this case be  
moved to June 4.

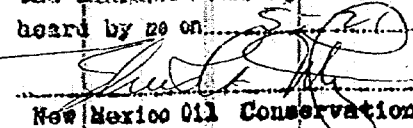
MR. UTZ: Without objection, Case 4121 will  
be continued to June 4,



STATE OF NEW MEXICO )  
 ) ss  
COUNTY OF BERNALILLO )

I, CA FENLEY, Court Reporter 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.



I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 4621.  
heard by me on 5-2-69 1969.  
 Examiner  
New Mexico Oil Conservation Commission

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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

May 7, 1969

IN THE MATTER OF:

Application of Roger C.  
Hanks for special pool rules  
Lea County, New Mexico.

Case 4121

BEFORE: DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

MR. HATCH: Case 4121, application of Roger C. Hanks for special pool rules, Lea County, New Mexico.

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant, & Christy, on behalf of the applicant. We have one set of exhibits. It is under one cover. I would like to have it marked Exhibit A, and the rest of them referred to in consecutive numbers under this cover, 1 through 9.

(Whereupon, Applicant's Exhibit A was marked for identification.)

WILLIAM J. LEMAY

called as a witness by the Applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q Will you state your name, please, and your profession?

A William J. LeMay, Consultant Geologist, Santa Fe, New Mexico.

Q Have you been employed by Roger Hanks to make a study of the area that is involved in this case?

A Yes, I have.

Q Have you previously testified before the Oil

Conservation Commission?

A Yes, I have.

Q And your qualifications as a Petroleum Engineer are a matter of record?

A Yes, as a Petroleum Geologist.

Q Are you familiar with the application of Roger Hanks in this case?

A Yes, I am.

Q What is Mr. Hanks seeking to accomplish in this application?

A Mr. Hanks is seeking to accomplish 160 acre spacing in the Bar U field, the Bough C producing zone in the Bar field in Lea County, New Mexico, with a proportionate depth factor or allowable factor based on 80 acre spacing with well locations to be located 150 feet from the center of the quarter quarter section.

Q Have you made a study of all of the wells in this area?

A Yes, I have.

Q And all the pressure data that is available?

A Yes.

Q Have you prepared certain exhibits for introduction

in this case?

A Yes, I have, Exhibit A, 1 thru 9.

Q Refer to Exhibit A-1, and explain what this is and what it shows?

A Exhibit A-1 is an orientation map of the Bar U field in Lea County, New Mexico. To date, all the producing wells are located in Section 1, Township 9 South, Range 32 East. And the recent well, the Hanks No. 1 Sinclair State in Section 12 of 9-32, which has not been potentialized yet, but which will make an oil well. All the wells are circled on Exhibit No. 1.

I might mention at this time that the Roger C. Hanks No. 1 Lowe State in Section 2, was originally potentialized for 40 barrels of oil per day, but no production has ever come out of that well, and it is a dryhole. There is currently a location in the north half of the northeast quarter of Section 1, and to date that is the only off pattern well for 60 acre spacing, with the exception of Lario No. 2 State B, which exceeds the 150 foot tolerance, but which would have 160 acres allocated to it without affecting the drainage. There is another well drilling in Section 36, but that could be an off pattern well.

MR. NUTTER: Is that one in Section 36 shown?

THE WITNESS: It should be. It is on the Great Western drilling tract, that little circle there. It would be a 660-1980. The Xerox copy does not show the lease ownership very clearly. The initial discovery well, being the Lario Oil and Gas No. 1 State B is an old well work over of GMK No. 1 Lowe State, a dryhole in 1963.

Q Are all these wells producing from the Bar U-Pennsylvanian pool?

A From the Bough C formation, yes.

Q Does this Exhibit I also shows the ownership of the acreage in the area?

A Yes.

Q Can you point what Roger Hanks owns?

A Mr. Hanks has a farm-out on the Bridwell tracts, and has acreage ownership in Section 11, and a farm-out from Sinclair. The only two operators to date in the field are Hanks and Lario.

Q Mr. Hanks has the leases on all of Section 1?

A I am not that familiar with his agreement. It is a farm-out agreement with Bridwell, whereby he does having the working interest in the two wells there.

Q Is that all you have with respect to Exhibit 1?

A Yes.

Q Refer to Exhibit II, and explain what this is and what it shows?

A Exhibit II is a copy of the recent Hanks No. 1 Sinclair State, the most recent well in the pool, and it has not been potentialized yet. The Bough C top is shown. It is a compensated borehole sonic log with gamma ray. It shows the Bough C pay section of 11 feet, which is just slightly above the field average of 10 feet of net pay. It has good porosity, good permeability, and surprising low pressure.

Q I believe you said this well has not yet been potentialized.

A No, it has not.

Q Please refer to Exhibit III, and explain this to the Commission?

A Exhibit III is a structure map of the Bar U-Tobacks-South Flying M area. It is contoured on the top of the Bough C formation, an interval of 50 feet. It shows that basically that this Bough C accumulations in all three fields are stratigraphic accumulations, and they are controlled by porosity and permeability. As indicated,

the well there in Section 12 is a tight well. The drillstem tested mud, and the log showed this porosity.

The well in Section 2 is an oddball well. It had 6 to 7 feet of porosity shown on the log, with a little higher than anticipated bottom hole pressure. It must not be connected to the field, because the well has never made any oil.

Q Now, refer to Exhibit IV.

A Exhibit IV is a summary of the chronology and spacing of the Commission's order for the Bough C field. It was introduced mainly to help prove the evolution of Bough C thinking over the whole trend from the Texas Line on through the western extension of the trend. Exhibit IV ties in with Exhibit V. They were considered as separate fields at one time, many fields were, and during the '60's these fields have coalesced into one, or two, or three large producing trends, and they are still developing to cover a much wider area than originally anticipated. Almost all fields are stratigraphic in the Bough C, and as withdrawals are made from the Bough C reservoir, the pressure data has declined quite rapidly.

With this thinking, the Commission has granted



since 1967, 160 acre spacing for Bough C fields, with the exception of the South Flying M field, which has some peculiarities in the initial well spacing. I might just mention that the South Flying M field, they were 3 wells crowded around a common corner of the section. It would be very difficult to allocate 160 acre spacing, considering the development that took place. But the other fields, Middle Allison, which is a temporary order, as the Commission does grant temporary spacing for a year; the Vada and Jenkins fields are permanent orders, having the same rules applying that we are requesting.

Q Please refer to Exhibit V, and explain that Exhibit?

A Exhibit V is a map with the plastic overlay, showing the fields as they existed on July 15, 1967. This covers the entire northshell of the Tatum basin in southeast New Mexico, and all Bough C production as of that date, July 15, 1967, is colored blue. The overlay is the production as it exist at May 1, 1969, two and half years, almost three years -- or two years later.

Q What does this show?

A It shows the fact that, for example being the

Vada, Lane, Middle Lane, Inbe, Inbe East, Siminola fields, as separately classified, are really one large producing trend. And in this particular case, the spacing on the pools is broken down, again chronologically, whereby the earlier developed production in the south end, meaning what is now the Inbe field, is on 80's; but the other half of the trend going northeast, the Vada area, which stretches over a long developed area, is on 160, as is the Middle Allison field, which is still extending, and probably going to connect with South Prairie and possibly Allison.

Q Does this indicate they might be connected, some of these areas?

A Yes, I think it indicates the remarkable similarity and the interconnection of all the Bough C fields on a regional basis.

MR. NUTTER: Where is the Middle Allison?

THE WITNESS: The Middle Allison incorporates that area called West Allison. It is south of South Prairie. It is not listed, it is named on the Exhibit, because it is on the overlay. There was no Middle Allison field as of the earlier date. I might suggest that the same thing is

possibly true over here on the west end, which will be brought out by the pressure data.

MR. NUTTER: Now, that Middle Allison is the area that is -- I believe that straddles the township line there just south of the old West Allison pool?

THE WITNESS: Yes.

MR. NUTTER: And that is on 160 acre spacing?

THE WITNESS: Correct.

Q Do you have any other comments with respect to Exhibit V?

A No.

Q Refer to Exhibit VI, and explain that to the Commission?

A Exhibit VI analyzes pressure data in the Bar U field. It is a plot of the bottomhole pressure versus time. As you will note, the initial discovery well being the Lario No. 1 State B, a reentry encountered bottomhole pressure in excess of 3,000 pounds, the exact pressure being 3,146 pounds. It was completed in 1963, and there were no other wells drilled in the Bar U field until 1967, when Mr. Hanks drilled his Bridwell State No. 1, and they encountered an initial bottomhole pressure of under 2,400 pounds, 2,388, to be exact on the Bar U, the first well that Mr. Hanks drilled, the Bridwell State No. 1.

Two other wells drilled during 1967, the Hanks Bridwell State No. 2, and the Lowe State No. 1, -which is the oddball well I mentioned, which really isn't an oil well, it is a dryhole, has not produced any oil. It is the lavender colored dot on the Exhibit.

The last well drilled being in 1969, is the Hanks No. 1 Sinclair State, which had a bomb pressure of 1,505 pounds. The other test data is drillstem tested pressures. The tremendous pressure drop in this field since the initial discovery well is evidenced by the Exhibit.

Q Now, refer to Exhibit VII and explain that.

A Exhibit VII is part of the cumulative oil production versus bottomhole pressure in the Bar U field. It shows that there has not been much oil taken out of this field for the present pressure drop. Combined with Exhibit VI, it gives you a pretty good picture of the area, being the fact that between the period of 1963 and 1967, there was only 3,000 barrels of oil, approximately, taken out of the field, and yet there was almost an 1,800 pound pressure drop. Since that time, it forms a pretty good straight line for projection of cumulative oil production, at an abandoned bottomhole pressure of 500 pounds.

Q What do Exhibits 6 and 7 tend to show?

A For one thing, it shows good communication in each reservoir. As you withdraw not only from the Bar U field, but I feel from the Tobac field which lies just north of the Bar U, the withdrawal from the Tobac field has affected the bottomhole pressure in this Bar U field. The Tobac wells were completed in 1964, with a few wells in 1965, and the bottomhole pressure ranged from 2,850 pounds to 3,050 pounds, within that range. If those pressures were plotted on the pressure versus time or pressure versus cumulated production, they would fall within the range of this pressure decline on both graphs. Of course, your scale will have to be different on the production versus pressure, because you would have to account for the withdrawals of the Tobac oil production. But there has to be something to account for this initial pressure drop of 800 pounds, with only 20,000 barrels being taken out of that reservoir.

Q Does this tend to show that there is drainage over a wide area?

A Yes, it does. Not only my testimony, but subsequent testimony, especially of the Vada pool, where wells

have been reentered and encountered significantly lower bottomhole pressures without any withdrawal of fluid at all, tend to support the contention that communication is transmitted over miles and not feet.

Q In your opinion, then, would one well effectively and efficiently drain 160 acres?

A At least 160 acres.

Q Is that all you have with respect to Exhibit VII?

A Yes.

Q Refer to Exhibit VIII, and explain what this is and what it shows?

A Exhibit VIII is a tabulation of reservoir qualities in the Bar U fields from which volumetric calculations were derived. Porosity ranges from five to ten percent, with an average of eight percent.

Water saturation, as indicated by the logs, is thirty five percent.

Formation volume factor, 1.5.

Recovery factor of 40 percent.

The net pay range is from six to twelve feet, with an average net pay of ten feet.

The bubble point, which is above the initial

bottomhole pressure, is calculated to be 3,200 pounds.

Reservoir pressure abandonment, 500 pounds.

Oil gravity, the API gravity, there is a mistake in that, if you will correct Exhibit VIII to 46 degrees. 46 degrees API at 60 degrees.

The solution GOR is 1,000 cubic feet per barrel, and this is an average of production.

The oil in place calculation, utilizing these figures, indicate 269 barrels per acre foot. When you multiply this out, it gives you a utilized recovery factor of 40 per cent, and a net pay of 10 percent. It indicates 85,600 barrels of recoverable oil under 80 acres, and 171,200 barrels under 160 acre spacing, without considering depletion. Utilizing depletion from the volumetric calculations, indicates the reservoir of 62 percent depleted. The amount of depletion from a projection of Exhibits VII and VI indicate a 50 percent depletion. In other words, approximately 250,000 barrels of oil have been taken out of this reservoir. Projecting the pressure to abandonment at 500 pounds would indicate a 500,000 barrels of oil, total recovery from the reservoir.

Q Now, refer to Exhibit IX, and explain this to

the Commission?

A Exhibit IX is a summary of the economics of development in the Bar U field, indicating the gross income from oil and gas, being one barrel of oil plus a cubic foot of gas is \$3.43 a barrel. These were calculated with working interest income of 87.5 per cent and also with 75 percent working interest, which is the range of operators working interest in the area. Operating costs of 71 cents a barrel includes taxes, 21 cents, and water disposal, and general operating cost of 50 cents per barrel. The net working interest income at 87.5 percent is \$2.29 a barrel. At 75 percent, it is \$1.86 a barrel.

Assuming no depletion of reserves and 87.5 percent working interest, the recovery is 85,600 barrels under 80 acres, 171,200 barrels under 160 acres. It shows the net income to be \$196,024 under 80, and \$392,048 under 160. The development costs per well in the area is \$175,000 as completed with bottomhole pumping equipment. The net profit per well would be \$21,024 under 80, and \$217,048 under 160. This would yield a return investment of 1.20 under 80, and 2.24 under 160. This is with an 87.5 percent working interest lease, and no consideration given to



discounting the dollar or the risk involved in developing the field.

As you can see, on a 75 percent working interest, these figures drop considerably. Net income would be \$159,216 under 80 acres, and \$318,432 under 160 acres, indicating a loss of \$15,784 under 80 acre spacing, and a \$143,432 profit under 160 acre spacing. Again, these figures are indicating no depletion of reserves.

The next tabulation shows the economics with allowances with depletion, both allowances for the 62 percent depletion as indicated by the volumetric calculations, and the 50 percent depletion as indicated by the projection of Exhibits VI and VII. Running through these figures briefly: total recoverable reserves, and this is as of April of this year, are 32,528 barrels under 80 acres; 65,056 barrels under 160 acres. The total net income with 38 percent depletion -- it is actually 62 percent depletion and 38 percent remaining reserves -- \$74,489 under 80 acre spacing, and \$148,978 under 160 acre spacing. The same well cost of \$175,000 indicated both a loss for 80 and a loss for 160; a loss of \$100,511 under 80 acres, and \$26,022 under 160 acres. If you assume the 50 percent depletion, the 80 acres

would lose \$76,988, the 160 acre spacing would yield a profit of \$21,024.

Q In view of these figures, would you recommend to Mr. Hanks that he develop this area on 80 acres?

A No, sir.

Q There would be a loss in connection with the well?

A Yes.

Q Do you have any recommendations to make to the Commission with respect to the special rules to be adopted?

A I would recommend rules similar to those adopted in the Middle Allision, Vada, and Jenkins pool, whereby the spacing would be 160 acres, the allowable would be an 80 acre factor, and the tolerance would be 150 feet from the center of the quarter quarter section.

Q This would permit the latitude of the operator to drill on any 40 acre component of the 160 acres?

A Yes, it would, not crowding the boundary as close as an 80 acre spacing would. But I think there would have to be an exception granted to the present well, and probably an exception granted to the McElvaney location.

Q In your opinion, would the adoption of special field rules along the lines you indicated be in the interest

of conservation and the prevention of waste?

A Yes, sir.

Q Would it tend to protect correlative rights?

A Yes.

Q Do you whether Mr. Hanks has contacted the other owners in the area with respect to their attitude?

A I understand he has.

Q Is it your understanding that some of them have sent telegrams or letters to the Commission?

A It is my understanding that they have.

Q Supporting the application?

A Yes. Mr. Hanks gave me these this morning. I haven't had a chance to go over them. I guess you would call them waivers for operators in the general area.

MR. HINKLE: This may be a duplication to those which the Commission already received. We would like to file them with the Commission, for what they may be worth.

MR. NUTTER: All right.

MR. HINKLE: We would like to offer into evidence Exhibit A.

MR. NUTTER: Applicant's Exhibit A will be admitted.

(Whereupon, Applicant's Exhibit A was admitted into evidence.)

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. LeMay, referring to Exhibit 3 there in Exhibit A -- I guess we better go to Exhibit 1, that does show ownership. Now, Mr. Hanks has recently completed or is in the process of completing the well in the northwest quarter of Section 12?

A That's correct.

Q And that can have 160 acres dedicated to it?

A Yes.

Q And then there is a well in the southeast section of 1, and it can be 160 acres, as can the well in the southwest of Section 1?

A That's correct.

Q And the northwest of Section 1, Mr. Hanks Bridwell No. 2 would have 160 acres?

A Correct.

Q Now, he has his Bridwell State No. 1 in the southwest of the northeast of Section 1 there, is that right?

A Correct.

Q And the location drilling in the north half belongs to Lario?

A No, that is a Bridwell lease ownership. I believe it is a farm out from Bridwell to McElvaney.

Q What does Mr. Hanks have there on the north half?

A I am not familiar with his agreement.

MR. HINKLE: I believe that he has the north half of the northwest, and the south half of the northeast.

THE WITNESS: He's probably been assigned 80 acres too on the farm out agreement.

MR. HINKLE: Perhaps we can identify this as Exhibit B.

(Marked for identification  
Applicant's Exhibit B.)

MR. HINKLE: Applicant's Exhibit B is offered to show the acreage owned by Mr. Hanks in the area.

MR. NUTTER: Exhibit B will be admitted in evidence

(Whereupon, Applicant's Exhibit  
B was admitted in evidence.)

Q (By Mr. Nutter) So from Exhibit B, it appears that Mr. Hanks owns the north half of the northwest quarter of Section 1, and the south half of the northeast quarter of Section 1. Now, Mr. LeMay, do you if Mr. Hanks intends to communitize the northwest quarter of Section 1, and form a

160 acre standard unit, in the event the Commission would approve 160 acre spacing for this pool?

A Yes, it is my understanding that he would try to do that.

Q But McElvaney is drilling a well in the north half of the northeast quarter?

A I think this is the location. I don't know if the rig is on location yet. I don't know what could be done with that. It is the only off pattern location to date. I assume that whatever the Commission does concerning this type of thing would be done, whether you would grant an exception to the well or whether an agreement could be made whereby the well was not drilled, and Mr. Hanks could agree with Mr. McElvaney somehow not to drill it. I really don't know. It is the only location that presents a problem for the 160 acre pattern that exists.

Q Mr. Hanks, do you know the status of the well in the northeast quarter there?

MR. HANKS: No, I don't. It is not drilling as of now, not to my knowledge.

MR. KELLAHIN: If the Examiner please, I didn't enter an appearance earlier. I am Jason Kellahin, Kellahin

& Fox, appearing for Mr. Eugene McElvaney, Jr., who is here, and we will offer testimony in this case.

Q Mr. LeMay, what is your 62 percent depletion actually based on here?

A It is a calculation of the original bottomhole pressure in the field, 3,200 pounds. It is a ratio, actually.

Q It is a ratio of the virgin pressure to the later known pressure, which was that 1,505?

A Correct.

Q And 1,505 was a drillstem --

A No, that was a bomb pressure.

Q And so, then, referring to Exhibit IX where you say 38 percent depletion, you really mean 62 percent depletion and 38 percent remaining reserves?

A Yes. In fact, that Exhibit could be corrected.

MR. NUTTER: Any further questions of Mr. LeMay?

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. LeMay, on your recoverable reserves, did I understand you to say there were 85,600 barrels under 80 acres, or was that total reserve calculation?

A That was total with virgin pressure. That is

based on oil in place calculation.

Q Could you say how many recoverable barrels there are under 80 acres?

A With the present pressure at 50 percent depletion, there would be \$98,000 worth of recoverable reserves, utilizing 50 percent. Utilizing the 62 percent, there would be 32,000 barrels remaining under 80 acres.

Q 32,000 remaining?

A Correct, recoverable oil.

Q But would that be recoverable reserves?

A Yes.

Q Is it your testimony then that one well on 80 acres will recover a 85,600 barrels?

A Not at the present time, because as we have a bottomhole pressure of 1,500 pounds in the field, so the present wells will not recover that, no.

Q Now, at the time Mr. Hanks drilled his wells in 1967, under those pressure conditions, would one well recover 85,600 barrels of oil from an 80 acre tract?

A Assuming an 87.5 percent working interest lease, they would. Assuming a 75 percent working interest lease --



Q Mr. LeMay, what does the working interest have to do with the barrels?

A It has to do with the amount of barrels recoverable to the working interest, and, therefore, the income, and it effects the economics of development.

Q The figure you are using is not recoverable barrels, it is recoverable barrels to the working interest?

A That's correct.

Q Then 85,600 barrels is based on 87.5 percent interest?

A That's correct.

Q But you will recover something over that?

A Yes. The figure was reduced at the top of Exhibit IX to take care of the royalty of 12 1/2 percent, and the operating cost, and the taxes. That is net figure.

Q What would the ultimate recovery be from 80 acres under the conditions that Mr. Hanks encountered?

A A 100 percent of oil?

Q Yes.

A I don't have the calculations worked out. It would be something in excess of 85,600 barrels.

Q He has already produced from one of his wells

over 81,000 barrels through February? Would you agree to that?

A Yes.

Q And his No. 2 well has produced over 71,000 barrels through February?

A Correct.

Q Or a total of 152,827 barrels from 160 acres?

A That's correct. These wells are effectively on 160 acres spacing at the present time.

Q Now, according to your testimony, the wells are actually draining 160 acres?

A That's correct, probably in excess of it.

Q And it is your testimony that Mr. Hanks would propose to communitize each of the quarter section to provide 160 acres?

A That is my guess.

Q Mr. LeMay, when were those two wells drilled, do you know?

A The two Hanks, 1967.

Q One in March and one in September?

A Correct.

Q And they have been producing on the basis of 80 acre

spacing and allowable since that date?

A I don't think there has ever been an allowable hearing for the field. The farm out agreement indicates 80 acres on the well. The spacing has never been established, I don't believe.

Q Do you know what the allowable has been based on?

A Probably 40 acres. I could not find a hearing on it, and I used the Byrom report from Austin for field rules for the Bar U field. Occasionally, they are in error, but in my check, I couldn't find any 80 acre for the Bar U field.

Q Mr. Hanks did apply for 160 acre spacing in November of 1967?

A I think he did.

Q Did you have any contact with that case?

A I have nothing to do with that case.

Q It was your testimony that the assignment of 160 acre allowables to these wells would protect correlative rights?

A I think an 80 acre allowable is what we requested.

Q 160 acre proration unit, pardon me, would protect

correlative rights?

A Correct.

Q Would Mr. Hanks be willing to assign back to Mr. Bridwell his share of the profits from the 160 acre tract since the inception of production?

A I can't speak for Mr. Hanks.

Q Do you know whether he contacted Mr. Bridwell or not?

A He indicated to me he did contact Mr. Bridwell, and tried to make an arrangement. My understanding is that they couldn't get together at that time.

MR. NUTTER: Let's take a 15 minutes recess at this time.

(Whereupon a recess was taken.)

MR. NUTTER: The hearing will come to order, please. Mr. Kellahin, do you have a question of the witness?

Q (By Mr. Kellahin) Mr. LeMay, in your direct testimony, you testified as to pressures in the well in Section 12 to show there had been communication, do you not?

A Yes.

Q Was that the intent of your testimony?

A Yes.

Q What was -- was that an initial pressure that you gave?

A That is a bomb test made after the well -- after pipe was run and we had a fluid level. The well was not on production.

Q It is not?

A It is not yet.

Q What date was that test run?

A That is April 15th or -- I have a copy of the test here. The 17th.

Q Of this year?

A April, this year.

Q 1969?

A Correct.

Q Have you run any interference test in this pool to determine communication?

A There has been none run.

Q So the only thing you have are the pressures on all of the wells, upon the basis of which you reached your conclusion of drainage.

A Correct.

MR. KELLAHIN: That is all.

REDIRECT EXAMINATION

BY MR. HINKLE:

Q Does the differential in pressure here indicate drainage over a wide area?

A Yes.

Q And it is about the best evidence of drainage that you could obtain, is it not?

A Yes, an interference test, I think, would be better, but no one in the Bough C field, the operators do not want to shut down their wells to take a test because they lose production, and, to my knowledge, there have not been interference tests made in the field.

MR. NUTTER: And there haven't been any subsequent pressure test run on any of these wells after the initial bottomhole pressure test?

THE WITNESS: No.

MR. HINKLE: That is all we have of this witness.

MR. NUTTER: Any other questions of the witness?

You may be excused.

MR. HINKLE: That is all of our direct testimony.

We may want to put Mr. Hanks on in rebuttal after Mr. Kellahin finishes.

MR. KELLAHIN: I have four witnesses, but I think I will probably only use two of them, but we might as well swear all four of them.

(Thereupon, Opponent's Exhibits 1, 2 and 3 were marked for identification.)

EUGENE MCELVANEY

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A Eugene McElvaney, Jr.

Q Where do you live?

A I live at 3103 Encanto Drive, Roswell.

Q What business are you engaged in?

A I am in the oil and gas exploration business.

Q Mr. McElvaney, you have entered an appearance in opposition to the application of Mr. Hanks in Case 4121, now before the Commission. Do you have an interest in this area?

A Yes, sir.

Q What is that interest?

A I have a farm out contract from Bridwell Oil Company dated April 19, 1969.

Q Now, subsequent to obtaining that farm out agreement, did you file a notice of intention to drill with the Oil Conservation Commission, or prior thereto?

A I filed it prior thereto, on the basis while awaiting preparation for the farm out agreement, I filed it on April 16, and it was approved in Hobbs on April 17th.

Q I hand you what has been marked as Opponent's Exhibit No. I. Is that the Notice of Intention to drill which you filed, a copy of it?

A It is.

Q I hand you what has been marked as Opponent's Exhibit No. II. Would you identify that Exhibit?

A This is the C-102, Well location and acreage dedication plot for this particular well site.

Q I hand you what has been marked as Opponent's Exhibit III. Would you identify that exhibit, please?

A This is the farm out agreement from the Bridwell Oil Company, addressed to me.

Q Is that the agreement under which you propose to operate in this pool?



A Yes, it is.

Q Under the terms of that agreement, are you required to drill in order to earn any acreage?

A Yes, I am.

Q What acreage would you earn in the event you do drill?

A I am required to commence my initial test well on or before the 1st day of June, 1969, at a location actually of my choice on one of two 80 acre tracts, one being the south half of the northeast quarter and the other being the -- I have them backwards, the north half of the northwest quarter, or the south half of the northwest quarter of Section 1, 9 south, 32 east.

Q You were present during the hearing and heard the testimony of Mr. LeMay, is that right?

A Yes, sir.

Q Is this the same acreage that Mr. LeMay said Mr. Hanks was proposing to communitize with his wells?

A Yes, sir.

Q Have you made a study on your own behalf of the economics of drilling in this area?

A Yes, sir.

Q On the basis of the information available to you, are you willing to drill on 80 acre spacing?

A Very much so, yes.

Q Are you prepared to go ahead with the well for which you filed your Notice of Intention to drill?

A I am.

MR. KELLAHIN: If the Examiner, please, we have only one single copy of the Exhibit which I would like to offer in evidence. We would like to offer in evidence Exhibits 1 through 3.

MR. NUTTER: Opponent's Exhibits 1 through 3 will be admitted into evidence.

(Whereupon Opponent's Exhibits 1 through 3 were admitted into evidence.)

MR. KELLAHIN: That is all I have under direct examination of this witness.

MR. NUTTER: Any question of the witness?

MR. HINKLE: No questions.

MR. NUTTER: The witness may be excused.

MR. KELLAHIN: I would like to call as my second witness Mr. Viney.

RALPH VINEY

called as a witness, by the Opponent, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A My name is Ralph Viney.

Q Are you the same Mr. Viney who testified in a previous case this morning, and made your qualifications a matter of record?

A Yes, sir.

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

MR. NUTTER: They are.

Q Mr. Viney, you are a Consulting Petroleum Engineer, are you not?

A Yes.

Q In connection with your work as a consultant, have you been employed by Mr. ~~McGivney~~ in connection with the case now before the Commission?

A Yes, sir.

Q Have you made a study of this area involved in

this application?

A Yes, we have.

Q Have you made a study of the economics of the drilling on various size tracts in this area?

A Economics, yes sir. On 80 acres, let me qualify that.

Q You were present and heard the testimony of Mr. LeMay a few minutes ago in this case, did you not?

A Yes, sir.

Q In connection with his testimony, do you have any observations on the conclusion reached by Mr. LeMay?

A Yes, I do.

(Whereupon, Opponent's Exhibit 4 was marked for identification.)

Q Would you give those to the Commission, please?

A First of all, I would like to compliment Mr. LeMay on his presentation. In our study of this same area, and recognizing the advantage of possible additional pressures that Mr. LeMay had that we weren't afforded, the pressures, themselves, as we looked at them from the drillstem test pressures through 1963, through the drilling of Mr. Hanks wells, Bridwell State No. 1 and No. 2, and the well in Section 2, the Lowe State well, it would be difficult without

the advantage of subsequent pressures to state affirmatively that drainage occurred. Pressure drainage possibly has occurred, but what oil drainage has been affected, this is a matter of question. Energy has been dissipated. Now, the next question is whether the pressures as observed in the wells as reported are actually pressures taken from the same producing horizon. This could only be answered by subsequent testing to determine whether these actually do exist, or interference between wells does exist.

Mr. LeMay in his presentation, I think, supported to a large extent the theory that there has been pressure communication in reference to the pressure drop over a period of time. In making our study, we recognize this possibility, but also in studying the whole complex of Bough C wells or fields, I would agree with Mr. LeMay that possibly the Vada-South Lane is a separate system from the South Prairie-Tobac and this Bar U Field. Our studies indicate that they are not connected to the same -- or the possible same water aquifer. The chemical analysis from the water produced from the two areas is different. In looking at the pressure effect, we did not find the volume of pressures that Mr. Lemay referred to in the Tobac field. We did find the rapid drop

in production, but there is a distinct difference between the production of the Tobac wells and the production of the Bar U wells. The Tobac field has never -- to date, the Tobac wells have recovered 218,000 barrels per well. These wells are relatively free from water production, and the field production throughout its history, the water production has been low. The production of the Bar U field has not -- the wells in the Bar U have not shown low water rates.

Now, if we will take the same structural point, and using the structure map that Mr. LeMay presented in his exhibit, and follow this around to the Tobac field, you will notice a very close similarity, but I cannot indicate or prove positive connection of the zones between the two fields. This would involve detailed pressures, and a lot of it is speculation at that point. However, by taking the structural point, we have found that wells that are on the same structural point as Mr. Hanks Bridwell No. 2, and relating that same structural effect over the Tobac, the watercut as reported by Mr. Hanks and the watercuts now observed in the wells in the Tobac are nearly identical, percentagewise, of production.

The other situation is that we do not definitely feel that production from this area, the Bar U and possibly the Toback field, is solution gas type drive energy. There is probably some water expansion. The water expansion in the Toback areas and in the Bar U, we'll not know how it will go in the Bar U at this point. We do have evidence in the Toback that the expansion apparently has about reached its limit, production is falling. The gas-oil ratios in the wells, however, are not increasing. This oil in the Toback appears to have been under saturated oil, and it looks like much of the production has been due entirely to the expansion of fluids in the reservoir. We feel that the production in the Bar U field is being much greater supported by the fluid expansion from the downdip area, and that, therefore, the recoveries as shown on 80 acres or as shown on 160 acres by volumetric techniques are a matter of what parameters you use for water saturation.

I would suspect, looking at the exhibit that is used in your presentation, that the porosity analysis of your wells in Section 12 is probably not going to run ten to twelve percent. We obtained porosity analysis in small wells in Section 30, which is the nearest good

producing well to the Bar U field. This small well in Section 30 of the Toback field has recovered approximately 240,000 barrels. The average porosity is in the neighborhood of 10 percent. The pay thickness is almost identical. You could lay the logs down in the entire area. There is no difference in the pay thickness.

We also have found by looking at the situation in the Toback field that these wells in some cases have been drilled on denser than 80 acre locations, and the average recovery per well will be in excess 250 barrels. These 250 barrels is a projection of performance, and is subject to correction with additional production.

The other situation we have seen is in the Bough C field, and this has respect to pressures. Mr. LeMay made a statement that in the Vada field you could drill offsetting the well, a good well, and have very low pressures. Likewise, you have been able to drill in the Vada field a well that had two feet of pay, virtually no bottomhole pressure, and pick up at some location away 20 to 22 feet of pay in virgin pressures. We do not know the depositional characteristics in the Bough C formation. It appears there may be much mudding, some lensing, depositional effect, and,



therefore, I cannot conclusively agree with Mr. LeMay's presentation that the pressures alone afford communication or indicate continuation of the reservoir from the wells as shown.

Our economics indicate that a well drilled on 80 acre location would cost approximately \$175,000.

Q In that connection, Mr. Viney, would you refer to what has been marked as our Exhibit No. IV, and discuss the information shown on this exhibit?

A This exhibit is a detailed breakdown for accounting purposes, which is normally used in the business, indicating item description of costs for drilling, broken down both for intangible cost and for tangible cost. We indicate that the intangible or drilling cost would approximate \$81,000; that the tangibles and hardware equipment to complete the well would range about \$94,000; and a total cost for the well of \$174,000, \$175,000.

Q You are in agreement, then, with Mr. LeMay's figures on drilling cost?

A Yes. I think that basically prudent operators are going to have about the same expenditures in the same areas.

Q On the second page of the Exhibit, will you discuss that information?

A The second page of the exhibit we have listed the production by wells, by months, for Mr. Hanks wells, and for the Lario wells. Mr. Hanks well in the south half of the northeast quarter of Section 1, has to date produced, and to date being March 1, 81,000 barrels of oil, 200,000 some barrels of water, 200 flat, and reported gas of 67,000 Mcf. I assume, by looking at the records, that gas connection was not obtained probably for Mr. Hanks well before September of 1968. The No. 2 well, which is off structure and located in the north half of the northwest quarter, has produced 71,000 barrels, 19,000 barrels of water, and 20,000 reported Mcf of gas.

Here again, the water production figures show that possible recovery is directly proportional to the amount of fluid produced from these wells. We do not have the March figures. The oil production from these wells was reported to be 11,500 barrels. I cannot tell you what the individual breakdown of the water was, but there is a definite relationship with structure to the recovery per well.

There has been no indicated increase in the gas oil ratios, suggesting a drop in reservoir pressures as you would expect, or without having a good combined sample of the fluid, this may be, as we stated earlier, an under saturated crude. Therefore, in view of this, we feel that recovery is a function of fluid entry into the reservoir, and it cannot be stated that volumetric estimates will be confined to 80 acres or to 160 acres, and we cannot, in our own mind, say that a well drilled on 160 acres would recover as much as two wells drilled on the same 160. We feel that your recovery efficiency of one well on 160 acres in this type of field would not be as great as recovery of two wells draining on the same acreage.

The production history on the Lario State well, which is located in the southeast corner of Section 1, this well has to date produced 68,000 barrels of oil, 38,000 barrels of water, and reported production of gas 53,000 Mcf.

The B lease, B-2 well, which was recently completed and which offsets Mr. McElvaney's tract in the south half of the northeast quarter, was completed in October, and has to date recovered 18,000 barrels of oil, 72,000 barrels of water, and 24,000 Mcf of gas. Characteristically, the wells low on structure, the Lario

B-2, GMK, and Mr. Hanks No. 1 Bridwell State, make the larger volume of water. We do not have the benefit of the tests on Mr. Hanks Sinclair well in Section 12.

It would probably be my opinion -- it would be my opinion that this well probably would not have as much water as his B-2 well. Consequently, on the basis of empirical data developed from the performance of wells in the Toback field, performance used in the Vada field, performance to date on the Bar U field, we project that Mr. Hanks well, being not unsimilar to wells in the Toback field and to density of less than 80 acres, and having approximately the same pay characteristics, thickness, could recover -- the down dip well could recover a maximum of 200,000,000 to 230,000,000 barrels. The Lario well could have a maximum recovery of 160,000 to 170,000 barrels. The Lario B-2 well would be in the range somewhere between 170,000 to 200,000 barrels. Using these economics, we can project a profit of drilling the location that Mr. McElvaney has of approximately \$170,000 after recovering all costs, and assuming a recovery of 200,000 barrels to this well. Mr. McElvaney's net revenue interest in this well will be 75 percent interest.

Q On that basis, Mr. Viney, would you recommend to Mr. McElvaney that he drill in this pool on the basis of 80 acre drilling, and proration unit?

A On the basis of our study of various Vada wells, I would.

Q Just for the record, would you go through your Exhibit No. IV? You have discussed pages 1 and 2. The third page, would you just identify those, please?

A The Third Page, we had a graphical presentation of the performance of Mr. Hanks well to date, and our projected performance of ~~these~~ wells. We had a production summary of the Lario wells in the Bar U field, the fourth page. The fifth page is a graphical presentation of the production to date, and our projected performance. The sixth page is a presentation of the cumulative production in the Tobac field by wells.

Q Did you run an average on those?

A Yes, the production to date has been 218,000 barrels per well. Now, that includes good, bad, and indifferent, plugged, everything, taking the number of wells that had been completed in the Toback area.

The seventh page is a copy of Signal Oil and Gas

Company's production on their wells in Section 30, in the Township north of the Bar U field. And the next page is a copy of the performance of their well in Section 29, their State No. 29, their No. 1 well.

It should be pointed out, just look at this, for example, on the small wells in Section 29, the characteristics of the Bough C change so fast and in such a short distance, that you cannot guarantee that a well 50 feet or 100 feet would penetrate the reef position and, therefore, I cannot say that the formation exists under McElvaney's location, anymore than I could say it may or may not exist to the north in the section under the well being drilled by McGrath and Smith.

Our last presentation in this exhibit was a copy of Signal's electric log on the State 30 well, the purpose being to show the similarity between the section, the Bough C section in this well, and the similarity of Sections of the logs in the Bar U field.

Q Mr. Viney, if we assume that the laws of the State of New Mexico provide that this Commission may create a proration unit consisting of such area that one well will efficiently and economically drain and develop, on that basis

can you say as an engineer that, in your opinion, one well will efficiently and economically drain and develop 160 acres in this pool?

A I cannot say that because I don't think we have enough proof to date to say that one well could recover as much oil from 160 acre as two wells could. The economics may be different from the standpoint of the operator, but I think basically through the chronological presentation of proration spacing as presented by Mr. LeMay, much of the spacing has been asked due to lesser valued properties, and possibly the increased cost of operations in drilling.

Q Now, on the basis of the statutory requirement, will one well, in your opinion, efficiently and economically drain and develop 80 acres?

A Falling back again and resting upon the investigation of the Vada pools, yes sir. As far as we know, one well will develop and recover efficiently from 80 acres.

Q And it would be economical?

A Yes, sir.

Q Now, Mr. Viney, bearing in mind that Mr. Hanks, the applicant in this case, has wells located on the north half of the northwest quarter, and the south half of the northeast quarter of the section, and the testimony of his witness was that he would communitize, proposed to communitize

the entire northwest quarter and the entire northeast quarter into a drilling and proration unit, in the event the Commission approves his application, would the ownership under the remaining portion of the quarters, that is the south half of the northwest and the north half of the northeast, would that ownership be fully protected in view of the history of production that has already occurred in this pool?

A No, sir. I don't believe so. Here again, we are looking at a different type mechanism than just a solution type drive mechanism. Therefore, what fluid entries we are going to have pushed on to this lease by encroaching or expanded water, I cannot say. But a solution drive approach would not recover or take into consideration any oil brought in by the movement of oil into the reservoir.

Q In your opinion, would the correlative rights of the Bridwells, assuming they retain that interest, and it was not earned by Mr. McElvaney, would their correlative rights be protected by 160 acre spacing?

A It would be questionable, unless they shared from production from inception. No sir, I don't think they would.



Q Was your Exhibit IV, a multipage exhibit, prepared by you or under your supervision?

A Yes, sir.

MR. KELLAHIN: At this time, I would like to offer into evidence Exhibit IV.

MR. NUTTER: Opponent's Exhibit IV will be admitted in evidence.

(Whereupon, Opponent's Exhibit IV was admitted into evidence)

Q Do you have anything else?

A No, sir, I do not.

MR. KELLAHIN: That completes our direct examination of the witness.

MR. NUTTER: Does anyone have a question of this witness?

CROSS EXAMINATION

BY MR. HINKLE:

Q Mr. Viney, I believe your testimony shows that you did not have pressure data at the time of your investigation of this, in the Roger C. Hanks Sinclair State No. 1?

A That's correct.

Q Do you know what that is through the testimony

that has given by Mr. LeMay?

A Yes, sir.

Q If you ~~had~~ it at the time of your investigation, would it have made a difference in your conclusions?

A No, sir, it would not for this reason, we have, as pointed out in my testimony, we have measured pressures on wells adjoining each other, and have found a wide disparity from one location to another.

Q You have indicated there that the drop in pressure does not necessarily mean communication, is that right?

A I said the drop in ~~pressure~~ may not necessarily mean drainage of oil. There could be pressure drainage, yes.

Q What would cause drop in pressure?

A This would be a pressure depletion, allowing any movement of gas or fluids toward the low pressure area.

Q You don't think there is any significance, then, through the pressure drop from the time of the drilling of first well until the time of the drilling of the last well in the Bar U field?

A I say pressures are significant if they are supported, and under the basis that you can then follow up to confirm that these are pressures of connecting reservoirs.

Q Isn't it a fact that this form of testimony has been used time and time again before this Commission to show communication in areas of this kind and drainage?

A If the pressures are conducted on similar wells at the same time, then, yes, I would say you could indicate interference and drainage.

Q And then you do not attach any significance to the drop in pressure from the time of the drilling of the initial test well to the drop in pressure at the time of drilling the last test well?

A If I may, there is also significance to pressures. Now, I cannot determine, when you say the initial test well, if you are referring to the initial test well in Lario's, then, that pressure was measured by drillstem test pressure. This pressure, as I recall reviewing those records, showed that that test was conducted sometime in 1963. The next period of the history on this well was in 1966, when they placed it back in production. They did not have a pressure in 1966. Therefore, we don't know whether the pressure as measured in the Lario well was dissipated through faulty cement, dissipated through drainage of communication, or anything else, so that actually the pressure that Mr. LeMay used, and which you referred to as being original pressure, may or not may not be original pressure for the initial

production of this field.

Q You heard Mr. LeMay's testimony in connection with Exhibit 8. He showed by his figures that this area had been 62 percent depleted. Do you agree with that?

A No, sir. Let me answer your question in two ways, if I may. Do I agree with the figures that he presented, or do I agree with the mechanics he used in presenting them?

Q Do you feel that the field has been partially depleted?

A I will say that this field could be partially pressure depleted.

Q Just pressure depleted. Not as far as recovery of oil is concerned?

A Here again, when you have pressure depletion, you may also have loss of recovery efficiency of your reservoir oil.

Q Haven't you got the loss of the actual oil that's been produced?

A Not yet. We do not know definitely how the encroaching water is going to move into this reservoir.

Q You are making a lot of assumptions there, are you not, how wide and big the field is?

A Not any more than the pressure presented represents a solution or depletion type reservoir, no sir.

Q If Mr. LeMay's figures are right with respect to the percentages of depletion here, how would that relate to your figures, as far as payout of these wells are concerned?

A If we assumed that his conditions were right, and the depletion figures presented are correct, that could mean that Mr. McElvaney may not be able to get more than a break-even proposition on the development.

Q And it could cause a loss?

A It could. We do not know this, however.

Q If it caused a loss to Mr. McElvaney, would it not also cause a loss to Mr. Hanks in the wells he has drilled?

A Here again, I believe, sir, we are looking at the approach of depletion through solution drive. If we take a case not relating to this, for example, we do not know or cannot prevent capture, or loss of capture. If this same well is tied to Mr. Hanks wells, and the water does not move into the reservoir, as it may, there is this possible loss of productive ability.

Q You can cause an economic loss by drilling too many wells, can you not, as in this case?

A Yes. And you will also cause an economic loss by not drilling the wells to effectively recover production from this area.

Q Hasn't that been the actual experience in some of these Bough C fields, where they drilled too many wells, but the wells never paid off?

A Sir, I can't answer that in the affirmative. This may be a situation in some wells, but I can't say that as a general statement, no sir.

Q You made a study, I assume, of the different Bough C Pools in this area?

A Yes, I have.

Q Isn't it a fact that in all of these cases that have been before the Oil Conservation Commission, that the testimony has been rather uniform, that there is a wide drainage in the Bough C formation.

A Mr. Hinkle, if I may, here again I think it gets back to the changing attitudes of economics. And whether there has been true honesty within the presentation from the standpoint of engineering, or whether it is a desire to gain economic benefits by drilling on wider spacing, I can't answer that, no sir.

Q The Commission has found in many of these cases that one well will effectively and efficiently and economically drain wide areas, has it not?

A This I can't answer, whether they have found, or whether they have indicated that they will or have approved wide spacing. Mr. Hinkle, the only way I can say whether it will effectively drain 160 acres is when the wells are abandoned.

Q If Mr. Hanks was willing to take new pressure gauges on all the wells in this area at the present time, would you consider reviewing your testimony in the light of that?

A I could review my testimony, but basically --

Q And your conclusions?

A My conclusions may be changed, but there again this information, I think, as Mr. Hanks pointed out to you, would have to be a pressure test of all wells. This creates some problem for him, as his wells are on pump. Fluid levels or sonic levels don't necessarily reflect a true pressure condition in the well. I would say this, that with this information, it would always be available to review, and I mean any testimony is subject to revision.

MR. HINKLE: That is all we have.

MR. KELLAHIN: That is all I have.

MR. NUTTER: Any further questions of Mr. Viney?

You may be excused.

Mr. Hinkle, I think you brought a point up there that is very vital to this case. Obviously, there is some opposition to the proposal of the Applicant here, and it was running through my own mind at the time Mr. LeMay was presenting his pressure information that these pressures are incomplete. We have one pressure at one time only on each of the various wells, and the fact that the recent well has a pressure of 1,505 doesn't necessarily indicate effective drainage unless there has been similar decline since the original pressures in some of these other wells.

For this reason, I think it is prudent at this time to continue this case and to request pressures to be taken on these various wells. Is Lario a partner of -- are they with you on this application?

MR. HANKS: Oh, yes.

MR. KELLAHIN: If the Examiner, please, looking at the farmout agreement, Mr. McElvaney, in order to earn his rights, must commence his wells by June 1. Under those circumstances, unless he can get an extension of time,



he would be out of the picture and have no further interest, because he can only earn his interest by drilling. He has filed his Notice of Intention to drill, and is ready to drill.

MR. HINKLE: Mr. Examiner, we would like to have the case continued for **thirty days**.

MR. NUTTER: That would be beyond the time limit that Mr. McElvaney's farm out covers. We have a hearing set for May 21. We would be happy to continue this case to May 21, and I assure you we can have an order on it before the first of June.

MR. VINEY: If they desire my services, I will be unavailable for that week. Could we move that forward to the Friday or the ~~Thursday~~?

MR. KELLAHIN: If the Examiner please, I think this thing is wholly unreasonable. If we review the history of this case, it is not the first time this thing has been before the Commission. If it were, there would be some basis for saying they should have some time to get some additional material. But the Commission's records will show that this same identical application was filed by Mr. Hanks in November of 1967, and it was continued several times, and then dismissed. Now, for them to come back at this point

and say, "we need more time to get more information to comply with your request," seems to me beyond all reasons.

We certainly object to it. We submit this is wholly unreasonable to ask for a continuance.

MR. HINKLE: I am not familiar with the previous application, and I would like Mr. Hanks to make a statement with respect to that.

MR. HANKS: I think that the sequence of events is important here, in that certainly I have no objections on my wells, and I will have to get approval from Lario on theirs, shutting those wells in and taking a 72 hour bottomhole pressure test.

When I drilled the Bridwell State No. 1 in, I believe February or March of 1967, this well was drilled, and we had a drillstem test, which the information is on their test, and recovered about a third of oil and two-thirds water. And with some question, we set pipe and perforated the well, and it made all water and a little gas. And everybody agreed that we had a channel job, so they squeezed it. Lario was operating the No. 1 at that time. They re-perforated, re-acidized, with the same result, and Lario got out, and I took over and I produced the well, I believe

16,000 barrels in 1967. I had a farm-out agreement at which I had to commence another well by July, and I asked them to extend that six months to see if I could test this well, to see if I could get anymore oil production out of it, and they gave me until the first of September -- instead of July, to November. So I drilled the Bridwell No. 2.

In this interim time, I had a lease expiring on the west, which was a Lowe State and I had applied for 160 acre spacing, and I drilled the Lowe State 1, and we took a core, which it is in evidence, had six feet of porosity, and \$385,000 later, I abandoned the lease, and I was totally disenchanted with Bar U and anybody around it, and dropped the whole deal. To me, the wells wouldn't drain 10 acres. And then the production started to increase, the water and the oil had began to look better, and I had to ask Bridwell for the additional 80 acres, 160 attributed to each well. They came back and said they would give me those two 80's for a 5/32 override. I was offering a 75 percent lease. We never got together. When this application was filed with the Commission, I wrote Bridwell a letter and told him that if the Commission gave 160 acre approval, that the first of the month following the approval of the Commission,

their override would increase to  $1/8$  of  $8/8$  -- at the present time it is  $3/32$  -- or they can communitize the two 80's, and they can go with me or they can buy me out with what I have in it, which to date the offset wells, and I don't want to discredit my fine witness or the others, but there is a matter of salt water disposal that they left out of this thing, and I get a totally different figure of \$20,000 more to get rid of this water. I have had a private system in there, and I told Mr. McElvaney when he told me about this deal, that if they drilled those wells, that these wells would not be allowed to go on my system. The access to my lease roads would be \$9,800. I have increased that to \$10,600.

To continue with the sequence of events, I drilled the Lowe 1 and lost it in November of 1968. This past year I put in a \$205,000 disposal system, of which there are 17 miles of four inch, and an eleven thousand foot Devonian well called the no pit well in the Devonian to take care of the water. On or about December 11 of this year, Joe Hood, who is an heir of the Bridwell family, was offered these two 80-acre tracts for a sixteenth override, and he called me about this, and I discouraged it because of the

testimony that Mr. LeMay just gave.

On or about April 10 of this year, Charles B. Read informed me that Bridwell Oil Company had made a farm out on a property to McElvaney, and McElvaney had submitted the deal to Charles B. Read, and they turned it down because they didn't believe in drilling these wells on 160 acre spacing.

On April 29, Sam Boren's representative, checking the deal, called me and checked the same sequence of events. On May 5, of 1969, Solar Oil Company came by my office with the same two 80 acre tracts, and wanted to know why I wouldn't drill them. I showed them Mr. LeMay's testimony.

I had fourteen approvals from major oil companies in and adjacent to this property, and they concurred that our idea on these wells effectively draining 160 acres is for all practical purposes valid, and I don't believe that these major companies are going to pass out their approvals if they are not 100 percent in concurrence.

That is all I have to say, and I would be willing to shut my wells in and take a bottomhole pressure.

MR. KELLAHIN: I have one question I would like to ask, although that is unsworn testimony before the

hearing.

Mr. Hanks, Mr. Read is associated with you in this pool, is he not?

MR. HANKS: Mr. Read owns a one half interest in the Sinclair State, that's right, and he would not drill those two locations up there.

MR. KELLAHIN: That's all.

M R. NUTTER: I think we will continue this case to the hearing on May 21st at the same place, at 9 o'clock A.M. We expect to have bottomhole pressures on the wells that have been producing. I think that the pressure that we have on the Sinclair State is a recent enough pressure, and it wouldn't do any good to have a pressure on that. Mr. Kellahin, we will have an order out before June 1.

MR. KELLAHIN; Mr. Nutter, the witness here, Mr. Viney, will be in New York on May 21st.

MR. NUTTER: Well, you can get someone else to analyze the bottomhole pressure test.

We do have numerous telegrams. Most of them are in support with the possible exception of one telegram that was in disagreement with the application, and it happens

to be from Bridwell Oil Company. We will continue this case and recess the hearing until 1:15 o'clock this afternoon.

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EXHIBITSMARKEDOFFERED AND RECEIVED  
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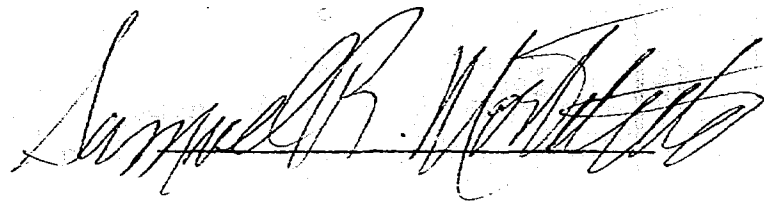
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STATE OF NEW MEXICO     )  
                                   ) ss.  
 COUNTY OF BERNALILLO    )

I, SAMUEL MORTELETTE, Court Reporter 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.



I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4121, heard by me on 7/2, 1969.

Samuel Mortelette, Examiner  
 New Mexico Oil Conservation Commission



## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

87501

GOVERNOR  
DAVID F. CARGO  
CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMijo  
MEMBER

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

July 16, 1969

Mr. Clarence Hinkle  
Hinkle, Bondurant & Christy  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

Re: Case No. 4121  
Order No. R-3791

Applicant:  
Roger C. Hanks

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC           

Aztec OCC           

Other Mr. Jason Kellahin and Mr. Bill LeMay

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE No. 4121  
Order No. R-3791

APPLICATION OF ROGER C. HANKS  
FOR SPECIAL POOL RULES, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 4, 1969,  
at Santa Fe, New Mexico, before Examiner Daniel S. Mutter.

NOW, on this 15th day of July, 1969, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

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

(2) That the applicant, Roger C. Hanks, seeks the promulga-  
tion of special rules and regulations for the Bar U-Pennsylvanian  
Pool, Lea County, New Mexico, including a provision for 160-acre  
spacing and proration units and the assignment of 80-acre allow-  
ables.

(3) That the applicant has established that one well in  
the Bar U-Pennsylvanian Pool can efficiently and economically  
drain and develop 160 acres.

(4) That in order to prevent the economic loss caused by  
the drilling of unnecessary wells, to avoid the augmentation of  
risk arising from the drilling of an excessive number of wells,  
to prevent reduced recovery which might result from the drilling

-2-

CASE No. 4121

Order No. R-3791

of too few wells, and to otherwise prevent waste and protect correlative rights, special rules and regulations providing for 160-acre spacing units and the assignment of 80-acre proportional factor of 4.77 should be promulgated for the Bar U-Pennsylvanian Pool.

(5) That the special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

**IT IS THEREFORE ORDERED:**

That Special Rules and Regulations for the Bar U-Pennsylvanian Pool, Lea County, New Mexico, are hereby promulgated as follows:

**SPECIAL RULES AND REGULATIONS  
FOR THE  
BAR U-PENNSYLVANIAN POOL**

**RULE 1.** Each well completed or recompleted in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof, and not nearer to or within the limits of another designated Pennsylvanian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

**RULE 2.** Each well shall be located on a standard unit containing 160 acres, more or less, substantially in the form of a square, which is a quarter section being a legal subdivision of the United States Public Land Surveys.

**RULE 3.** The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit consisting of less than 160 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

-3-

CASE No. 4121  
Order No. R-3791

RULE 4. Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or lot.

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before August 1, 1969.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Bar U-Pennsylvanian Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

-4-

CASE No. 4121  
Order No. R-3791

Failure to file new Forms C-102 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof shall receive no more than one-fourth of a standard allowable for the pool.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
DAVID F. CARGO, Chairman

  
ALEX J. ARNEJO, Member

  
A. L. PORTER, Jr., Member & Secretary

  
esr/

Docket No. 16-69

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 4, 1969

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

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

- CASE 4121: (Continued from the May 7, 1969, Examiner Hearing)  
Application of Roger C. Hanks for special pool rules, Lea County,  
New Mexico. Applicant, in the above-styled cause, seeks the  
promulgation of special pool rules for the Bar U-Pennsylvanian  
Pool, Lea County, New Mexico, including a provision for 160-  
acre spacing and proration units and the assignment of 80-acre  
allowables.
- CASE 4143: (Continued from the May 21, 1969, Examiner Hearing)  
Application of Amerada Petroleum Corporation for downhole  
commingling and special gas-oil ratio limitation, Lea County,  
New Mexico. Applicant, in the above-styled cause, seeks  
authority to commingle production from the Eumont Gas Pool and  
the Skaggs-Grayburg Pool in the wellbore of its Fred Turner,  
Jr., "A" Well No. 2, the Eumont completion of which is presently  
classified as a gas completion, located in Unit K of Section 18,  
Township 20 South, Range 38 East, Lea County, New Mexico. Appli-  
cant, further seeks the establishment of a special gas-oil ratio  
limitation for the subject well.
- CASE 3796: (Reopened)  
In the matter of Case No. 3796 being reopened pursuant to the  
provisions of Order No. R-3452, which order established 160-  
acre spacing units for the Cerca-Upper Pennsylvanian Pool, Lea  
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 40-acre or 80-acre spacing units.
- CASE 4093: (Reopened)  
Application of BTA Oil Producers for salt water disposal, Lea  
County, New Mexico. Order No. R-3727, dated April 15, 1969,  
authorized the applicant to dispose of produced salt water into  
the Devonian formation in the intervals from approximately  
12,233 feet to 12,275 feet in its Max Pray State "E" Well No. 1  
and from approximately 12,088 to 12,164 feet in its Max Pray  
State "E" Well No. 2 located, respectively, in Units F and C of  
Section 5, Township 10 South, Range 36 East, adjacent to the  
West Crossroads-Devonian Pool, Lea County, New Mexico. Applicant  
now seeks authority to extend said Devonian zones of disposal  
to 12,233 feet to 12,500 feet in said Well No. 1 and 12,088  
feet to such depth as is necessary in said Well No. 2.

Examiner Hearing  
June 4, 1969  
-2-

Docket No. 16-69

CASE 4144: Application of Sam G. Dunn Oil Operations for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 1910 feet to 1950 feet in its E. Faircloth "C" Well No. 1 located in Unit N of Section 32, Township 7 South, Range 27 East, Aime-San Andres Pool, Chaves County, New Mexico.

CASE 4143: (Continued and readvertised)  
Application of Mallard Petroleum Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the open-hole interval from approximately 3700 feet to 3750 feet in the Federal Well No. 4, located in Unit C of Section 20, Township 20 South, Range 34 East, Lynch (Yates) Pool, Lea County, New Mexico.

CASE 4145: Application of Tenneco Oil Company for an exception to Order No. R-3221, as amended, Lea and Eddy Counties, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for applicant's Insk Field leases comprising the SW/4 NW/4 of Section 18, Township 18 South, Range 32 East, Lea County, New Mexico, and the NE/4 of Section 24, Township 19 South, Range 31 East, Eddy County, New Mexico. Applicant seeks authority to dispose of salt water produced by wells completed on said leases in unlined surface pits on said leases.

CASE 4146: Application of V. S. Welch for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for the applicants lease comprising the NE/4 of Section 28, Township 18 South, Range 31 East, Shugart Field, Eddy County, New Mexico. Applicant seeks authority to dispose of salt water produced by wells completed or to be completed on said lease in unlined surface pits on said lease.



Examiner Hearing  
June 4, 1969

-3-

Docket No. 16-69

CASE 4147: Application of Mobil Oil Corporation for pool reclassification, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to have the North Vacuum-Morrow Pool, Lea County, New Mexico, reclassified from an oil pool to a gas pool.

CASE 4148: Application of Fannie Lee Mitchell, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Wolfcamp formation in the perforated interval from approximately 10,450 feet to 10,550 feet in the former Southern Petroleum Exploration Co., Inc. Machris State 36-3 Well No. 1 located in Unit W of Section 3, Township 16 South, Range 35 East, Townsend-Wolfcamp Pool, Lea County, New Mexico.

CASE 4149: Application of Jack L. McClellan for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for applicant's Harris Well No. 1 located in Unit P, Section 5, Township 16 South, Range 30 East, West Henshaw-Grayburg Pool, Eddy County, New Mexico. Applicant seeks authority to dispose of salt water produced by said well in unlined surface pits in the vicinity of the well.

The State of Texas,  
County of Midland

HOBBS OFFICE OF C. C.

JUN 16 9 50 AM '69

JUN 16 10 PM '69

BEFORE ME, the undersigned, a Notary Public in and for said County, State of Texas, on this day personally appeared J. B. Taylor, Engineer for McGrath & Smith, Inc. to me well known, and who, after being by me duly sworn, deposes and says that this is to certify that the attached Bottom Hole Pressure Test of McGrath & Smith, Inc. State SGW #1, Bar U - Penn Field, Chaves County, New Mexico is an exact copy of the original Bottom Hole Pressure test on file in the office of McGrath & Smith, Inc., 418 Building of the Southwest, Midland, Texas 79701.

*J. B. Taylor*  
J. B. Taylor

SUBSCRIBED AND SWORN TO BEFORE ME, this

13

day of

June

A. D. 19 69

(L. S.)

Notary Public in and for

Midland

County, Texas.



304 S. PECOS

BOX 4125

PHO. MU 2-2762

## BOTTOM HOLE PRESSURE RECORD

OPERATOR McGRATH &amp; SMITH

FIELD BAR U - PENN

DATE 6-12-69

WELL STATE SGW #1

JUL 10 PM 1 59

## WELL DATA

Status SHUT IN 72 HRS.

Tbg. Press. 869# Csg. Press.

Depth Feet	Pressure PSI	Gradient PSI/Ft.
SURFACE	869	
2000	923	.027
4000	979	.028
6000	1037	.029
8000	1173	.068
8550	1328	.282
9050 (3)	1471	.286
9100 (1)	1485	(.286)
-4682		

Temp. @ 9050 Ft. = 154 Degrees F.  
Top of Fluid 7692' Water NONE RECORDED  
Last B.H. Test INITIAL BHP  
BHP Change  
Chart No. 15485 Inst. No. 103  
Run By JWL

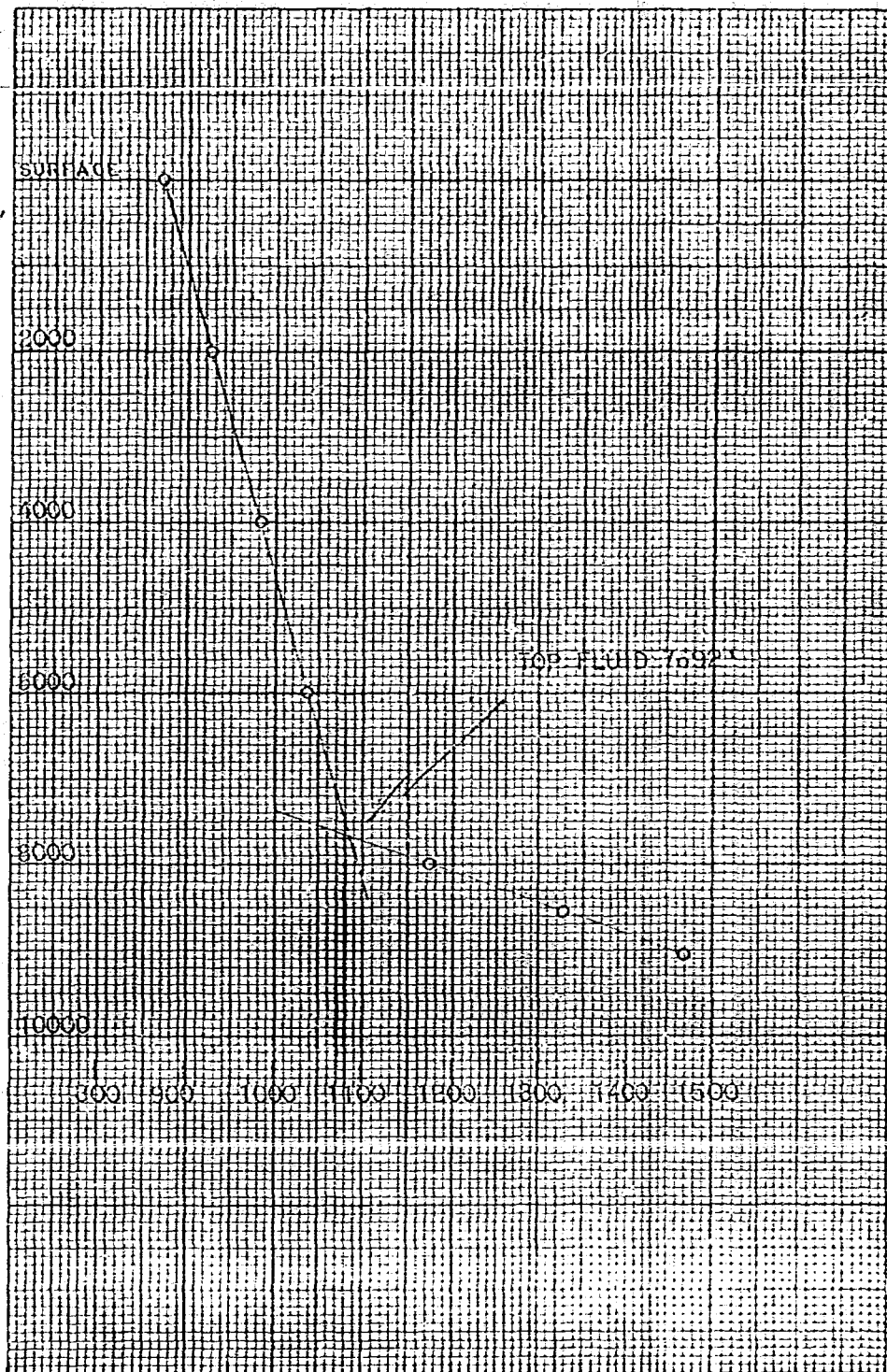
## WELL INFORMATION

Elevation 4418 DF 4405 GR  
Datum -4682 Csg. Perf. 9094-9104;  
9106-9114  
Formation PENN  
Packer @ S.N. @ 9038  
Bottom of Tubing 2" EUE @ 9090'  
Maximum Safe Test Depth 9050'

## FOOT NOTES

1. Extrapolated Pressure
2. Hit Obstruction
3. Self Compensating Element (No. Temp. Correction)
4. Corr. for Temperature
5. Corr. for U-Tube Effect

## GRAPHIC PRESENTATION



Bar U

Mc Groth & Smith

72 hr. SI 1485

SW SE 36-8-32

Chaves

Due north  $\frac{1}{2}$  mile of

Bridwell #1

**LARIO OIL & GAS COMPANY**  
PRODUCERS



P.O. BOX 155  
MIDLAND, TEXAS 79701

May 23, 1969

New Mexico Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Attention: Mr. Daniel C. Nutter  
Subject: Application by Roger C. Hanks  
for 160 acre spacing in the  
Bar-U Pennsylvanian Field  
Lea County, New Mexico  
Case #4121

Gentlemen:

Lario Oil & Gas Company as an active operator in the Bar-U Pennsylvanian Field supports Mr. Roger C. Hanks in his application for 160 acre spacing in this field.

The recent bottom hole pressure survey in this field proves to us that this area is being uniformly drained between wells, and also, proves to us that one well will very readily drain in excess of 160 acres. The extent of decline in bottom hole pressure further indicates that this reservoir has suffered quite extensive depletion. It is our thought that a prudent operator would not want any closer spacing than 160 acres in this area, and we again support and ask your consideration of Mr. Hanks petition.

Respectfully yours,

LARIO OIL & GAS COMPANY

D. A. Chase  
General Production Superintendent

DAC:sw

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST

MIDLAND, TEXAS 79701

May 12, 1969

Re: New Mexico Oil Conservation Commission Case  
# 4121, May 7, 1969  
160 acre spacing - 80  
acre allowable  
BAR U PENNSYLVANIAN FIELD  
Lea County, New Mexico

Gentlemen:

Reference is made to the above hearing which was conducted on schedule. Our very able counsel, Mr. Clarence Hinkle, as well as our competent consultant, Mr. Bill Lemay, presented the facts regarding this case as requested by the undersigned. The case was presented similar to the Vada Field showing severe pressure decline, obvious interconnecting permeability, log similarity, production similarity, and several other valid points.

There appeared, in opposition to the case, a Mr. Eugene McElvaney, Jr. of Roswell, New Mexico. His prime witness was a consulting engineer, Mr. Ralph H. Viney from Midland, Texas.

IN ESSENCE, MR VINEY TESTIFIED, UNDER OATH, IN HIS OPINION, YOU CANNOT SAY THAT A BOUGH "C" WELL WILL ADEQUENTLY DRAIN 160 ACRES AND, IN HIS OPINION, THE PRESSURE DECLINE DID NOT NECESSARILY REFLECT THE TRUE PICTURE OF INTERCONNECTING PERMEABILITY.

Not being a reasonable man, I nearly exploded after hearing the above testimony.

The case examiner, Mr. Daniel Nutter, acted in his usual competent manner and adjourned the case fro further testimony at the regularly scheduled hearing on May 21, 1969.

Bar U Penn Field  
160 acre spacing

Page - 2 -

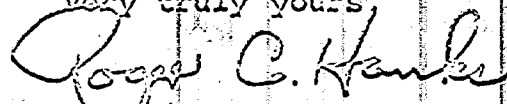
During this interim period, the operators of the Bar U Penn Field are to take 48 hour bottom hole pressure build up tests and present such evidence to the examiner for further study. Mr. Nutter thought the pressure data submitted was not current enough, with the exception of the undersigned's #1 Sinclair-State well located in the NW NW, Section 12-9S-32E, Lea County, New Mexico. This well is presently being tested for a potential. On April 17, 1969, a bottom hole pressure bomb was lowered and 74 hour build up taken and found to be 1505#. The original pressure of this reservoir was 2967# in October, 1963, in the Lario State "B" #1 located in SE SE, Section 1-9S-32E, Lea County, New Mexico. Subsequent drill stem tests taken from the undersigned's Bridwell-State #1 was 2338# taken on March 31, 1967 and his Lowe-State #1 was 2246# taken on October 18, 1967.

At considerable expense to the working interest owners, we are currently conducting bottom hole pressure build up tests on all wells. As I am sure you are aware, each well will have to be pulled in order to accomplish these tests.

I URGE YOU ALL, ONE MORE TIME, TO PLEASE LEND YOUR SUPPORT TO THIS CASE BY WRITING AND/OR WIRING SUCH SUPPORT TO THE ATTENTION OF MR. DANIEL NUTTER, CASE #4121, SET FOR ADDITIONAL TESTIMONY ON MAY 21, 1969.

I would like to personally thank you all for your previous support and ask for your continued help. As you all know, support, especially in a case such as this with this position, is extremely important.

Very truly yours,



Roger C. Hanks

RCH:kw

CLASS OF SERVICE  
This is a fast message unless its deferred character is indicated by the proper symbol.

# WESTERN UNION

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

## TELEGRAM

R. W. McFALL  
(1125).

SYMBOLS  
DL = Day Letter  
NL = Night Letter  
LT = International Letter Telegram

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LA052 NSB162

1969 MAY 6 AM 10 45

NS MDA039 DJ PD= MIDLAND TEX 6 11111A CDT=

STATE LAND OFFICE=

ATTN DANIEL S NUTTER SANTA FE NMEX=

OCC SCHEDULED EXAMINERS HEARING AT NINE OCLOCK AM MAY 7

1969 STATE LAND OFFICE BLDG SANTA FE NMEXICO. CASE

4121 - CABOT CORP SUPPORTS RECOMMENDATION BY ROGER C

HANKS AND URGES THE COMMISSION TO ADOPT FIELD RULES

INCLUDING 160 ACRES SPACING AND PROPORTIONATE DEPTH

FACTOR OF 4.77 FOR ALLOWABLE PURPOSES=

CABOT CORP BY W F MARKGRAF=

OCC 7 1969 4121 160 4.77=

WU1201 (R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

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# WESTERN UNION

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

## TELEGRAM

R. W. McFALL  
PRESIDENT

SYMBOLS  
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LA006 NSA685 SSA567

NS WEA194 JS NL PDB=WICHITA FALLS TEX 5= MAY 6 AM

DANIEL S NUTTER=

STATE LAND BLDG NEW MEXICO OIL CONSERVATION

COMMISSION SANTA FE NMEX=

AS RECORD LESSEE OF NORTH HALF NORTHEAST QUARTER AND

SOUTH HALF NORTHWEST QUARTER SECTION ONE TOWNSHIP 9

SOUTH RANGE 32 EAST LEA COUNTY NEW MEXICO OG 3920

BRIDWELL OIL COMPANY DESIRES TO REGISTER ITS PROTEST

TO APPROVAL OF 160 ACRE SPACING AND PRORATION UNITS

AND THE ASSIGNMENT OF 80 ACRE ALLOWABLES TO THE BAR U

PENN. POOL (CASE 4121) TO BE HEARD MAY 7 1969)=

BRIDWELL OIL COMPANY, WICHITA FALLS TEXAS=

WU1201 (R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE



**CLASS OF SERVICE**  
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# WESTERN UNION

## TELEGRAM

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

R. W. McFALL  
PRESIDENT

(430).

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LA 102 N9A452

1969 MAY 5 11 PM 57

NS MDA098 P P PD=MIDLAND TEX 5 440P CST=

MAY 5 PM 4 12

OIL CONSERVATION COMM=

ATTN DANIEL S NUTTER SANTA FE NMEX=

*Case file*

REF CASE 4121 SCHEDULED EXAMINERS HEARING 9AM WEDNESDAY

MAY 7 MCGRATH AND SMITH INC SUPPORTS RECOMMENDATIONS

BY R C HANKS AND URGES ADOPTION OF FIELD RULES

INCLUDING 160 ACRE SPACING AND A PROPORTIONAL DEPTH

FACTOR OF 4.77 FOR ALLOWABLE PURPOSES=

MCGRATH AND SMITH INC J B TAYLOR.

4121 9AM 7 160 4.77.

WU1201 (R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

**CLASS OF SERVICE**  
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# WESTERN UNION

## TELEGRAM

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

R. (1044)=

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LA057 SSE085

1969 MAY 5 AM 55

L RWA014 HO PDF=ROSWELL NMEX 6 1039A MDT=

DANIEL S NUTTER=

NEW MEXICO OIL CONSERVATION COMMISSION SANTA FE NMEX=

REFERENCE NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING WEDNESDAY MAY 7, 1969 9 AM CASE NUMBER

4121 CHARLES B READ SUPPORTS RECOMMENDATION BY ROGER C

HANKS AND URGES THE COMMISSION TO ADOPT FIELD RULE

PROVIDING FOR 160 ACRES SPACING IN A PROPORTIONAL DEPTH

FACTOR OF 4.77 FOR ALLOWABLE PURPOSES=

CHARLES B READ=

WU1201 (R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

## CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

# WESTERN UNION

## TELEGRAM

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

R. W. MCFALL  
PRESIDENT

## SYMBOLS

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LA032 NSA195

NS MDAO20 DJ PD=MIDLAND TEX 6 923A CDT=  
NEW MEXICO OIL CONSERVATION COMM.,

1969 MAY 6 AM 9 27

EXAMINER HEARING OIL CONSERVATION=  
CONFERENCE ROOM STATE LAND OFFICE BLDG  
SANTA FE NMEX=

RE CASE #4121 LARIO OIL AND GAS COMPANY SUPPORTS A  
RECOMMENDATION BY ROGER C HANKS AND URGES THE COMMISSION  
TO ADOPT FIELD RULES INCLUDING 160 ACRE SPACING AND A  
PROPORTIONAL DEPTH FACTOR OF 4.77 FOR ALLOWABLE PURPOSES=  
LARIO OIL AND GAS CO=

#4121 160 4.77=

WU1201(R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

## CLASS OF SERVICE

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# WESTERN UNION

## TELEGRAM

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

R. W. MCFALL  
PRESIDENT

## SYMBOLS

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LA085 NSA412

NS MDAO63 DJ PD=MIDLAND TEX 6 202P CDT=  
OIL CONSERVATION COMM=

1969 MAY 6 PM 2 31

ATTN DAN NUTTER SANTA FE NMEX=

REFERENCE CASE #4121 DATE NINE AM WEDNESDAY MAY 7TH  
1969. THE SUPERIOR OIL COMPANY SUPPORTS RECOMMENDATION  
BY ROGER C HANKS AND URGES THE COMMISSION TO ADOPT FIELD  
RULES INCLUDING 160 ACRE SPACING AND A PROPORTIONAL  
DEPTH FACTOR OF 4.77 FOR ALLOWABLE PURPOSES FOR THE  
BAR U PENN FIELD=

THE SUPERIOR OIL COMPANY D H COLLINS JR  
DIST ENGINEER=

#4121 NINE AM 7 1969 160 4.77 BAR U=

WU1201(R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLARENCE E. HINKLE  
W. E. BONDURANT, JR.  
S. B. CHRISTY IV  
LEWIS C. COX, JR.  
PAUL W. EATON, JR.  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
MICHAEL R. WATKINS  
W. R. HUGHES, JR.

LAW OFFICES  
HINKLE, BONDURANT & CHRISTY  
600 HINKLE BUILDING  
ROSWELL, NEW MEXICO 88201

April 7, 1969

MIDLAND, TEXAS OFFICE  
521 MIDLAND TOWER  
(915) MU 3-4891  
OF COUNSEL: IRAM M. DOW

TELEPHONE 622-6510  
AREA CODE 505  
POST OFFICE BOX 10

New Mexico Oil Conservation  
Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Attention: Mr. D. S. Nutter

Re: Roger C. Hanks, Ltd.

Gentlemen:

We enclose in triplicate Application of Roger C. Hanks, Ltd. for promulgation of Special Pool Rules for the Bar-U Pennsylvanian Pool. We would appreciate you setting the application for hearing at the earliest examiner's hearing.

Yours very truly,

HINKLE, BONDURANT & CHRISTY

*Paul W. Eaton, Jr.*  
Paul W. Eaton, Jr.

PWE/jw  
Enclosure

cc: Mr. Roger C. Hanks

DOCKET MAILED

Date 4-23-69

# PAN AMERICAN PETROLEUM CORPORATION

OIL AND GAS BUILDING

P. O. BOX 1410

FORT WORTH, TEXAS—76101

April 16, 1969

D. L. RAY  
DIVISION ENGINEER

File: GHF-176-986.510.1

Subject: Hearing called by Roger C. Hanks  
to Consider Adoption of Field Rules,  
Bar-U Pennsylvanian Pool  
Lea County, New Mexico

1 11  
17  
APR 17 1969

Case 4121

New Mexico Oil Conservation Commission  
Post Office Box 871  
Santa Fe, New Mexico 87501

Mad

Gentlemen:

We have been informed by Mr. Roger C. Hanks that he intends to request adoption of field rules for the subject field. It is our understanding that these rules will include provisions for 160-acre units and 80-acre allowables for these units.

Pan American Petroleum Corporation has no objection to the 160-acre unit provision of the proposed field rules but we would prefer that a 160-acre oil allowable be assigned each 160-acre unit.

Yours very truly,

D. L. Ray

WCW:jn

cc: Roger C. Hanks  
606 Wall Towers West  
Midland, Texas 79701

DOCKET MAILED

Date 4-23-69

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

APR 11 1969

APR 15 1969

Cabot Corporation  
P. O. Box 3295  
Midland, Texas 79701

Gentlemen:

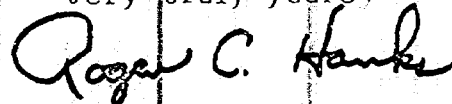
Enclosed is a copy of my application for Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico requesting 160 acre spacing, with voluntary 80 ac. allowable.

As most operators in the North Lea and Chaves-Roosevelt area agree the Bough "C" zone of the Pennsylvanian will sufficiently drain 160 acres, I ask your support of my application.

Please so indicate your approval of my application by signing in the blank space provided below, returning one executed copy to the undersigned and retaining one copy for your files. The case number and trial date will be forwarded to you on receipt from the Commission.

Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,



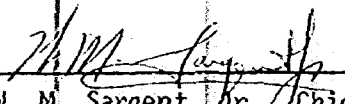
Roger C. Hanks

RCH/kw

Cabot Corporation

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

14th day of April, 1969.

By   
W. M. Sargent, Jr., Chief Petroleum Engineer

DOCKET MAILED

5-9-69

Docket No. 15-69

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 21, 1969

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, Alternate Examiner:

CASE 3405: (Reopened) (Continued from the May 7, 1969 Examiner Hearing)

In the matter of Case No. 3405 being reopened pursuant to the provisions of Order No. R-3081, which order established 640-acre spacing for the North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico, for a period of one year after first pipeline connection in the pool. All interested parties may appear and show cause why said pool should or should not be developed on 320-acre spacing units.

CASE 4131: Application of Gulf Oil Corporation for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Jalmat and South Eunice oil pools, Lea County, New Mexico, in the wellbores of six wells located as follows:

TOWNSHIP 21 SOUTH, RANGE 36 EAST

Arnott Ramsay (NCT-D) Well No. 6 - Unit K - Section 33  
Arnott Ramsay (NCT-D) Well No. 7 - Unit M - Section 33  
Arnott Ramsay (NCT-D) Well No. 8 - Unit N - Section 33  
Arnott Ramsay (NCT-D) Well No. 9 - Unit L - Section 33  
J. F. Janda (NCT-B) Well No. 4 - Unit O - Section 32

TOWNSHIP 22 SOUTH, RANGE 36 EAST

J. F. Janda (NCT-F) Well No. 8 - Unit C - Section 4

CASE 4132: Application of Pan American Petroleum Corporation for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for three wells located in Unit D, E, and P of Section 27, Township 18 South, Range 31 East, Shugart Field, Eddy County, New Mexico. Applicant seeks authority to continue to dispose of salt water produced in two unlined surface pits located in the E/2 of said Section 27.

- CASE 4133: Application of Skelly Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the West Dollarhide Drinkard Unit Area comprising 3,533.52 acres, more or less, of Fee, Federal, and State lands in Townships 24 and 25 South, Range 38 East, Lea County, New Mexico.
- CASE 4134: Application of Skelly Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its West Dollarhide Drinkard Unit Area by the injection of water into the Tubb-Drinkard formation through 43 wells located in Townships 24 and 25 South, Range 38 East, Dollarhide Tubb-Drinkard Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of well response.
- CASE 4135: Application of Roy E. Kimsey, Jr. for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil or gas or both, on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for the P. R. Bass-Federal Well No. 1 located in Unit F of Section 3, Township 16 South, Range 30 East, West Henshaw Pool, Eddy County, New Mexico. Applicant seeks authority to continue to dispose of produced salt water in an unlined surface pit located near said well.
- CASE 4136: Application of Mallard Petroleum, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates formation in the interval from 3606 feet to 3627 feet in its Milner Federal Well No. 4 located in Unit C of Section 35, Township 20 South, Range 34 East, Lynch Pool, Lea County, New Mexico.
- CASE 4137: Application of Atlantic Richfield Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the East Shugart Unit Area comprising 1359.40 acres, more or less, of Federal and State lands in Townships 18 and 19 South, Range 31 East, Eddy County, New Mexico.

- CASE 4138: Application of Atlantic Richfield Company for a waterflood project and unorthodox injection well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Yates-Seven Rivers-Queen formations through 11 wells in Townships 18 and 19 South, Range 31 East, Shugart Pool, Eddy County, New Mexico. Applicant further seeks an exception to permit the drilling of one of said wells at an unorthodox location 100 feet from the South line and 990 feet from the West line of Section 35, Township 18 South, Range 31 East.
- CASE 4139: Application of Allied Chemical Corporation for a unit agreement, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Milnesand (San Andres) Unit Area comprising 5370.18 acres, more or less, of Federal and Fee lands in Township 8 South, Ranges 34 and 35 East, Roosevelt County, New Mexico.
- CASE 4140: Application of Allied Chemical Corporation for a waterflood project, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Milnesand (San Andres) Unit Area by the injection of water into the San Andres formation through 33 wells located in Township 8 South, Ranges 34 and 35 East, Milnesand-San Andres Pool, Roosevelt County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of well response.
- CASE 4141: Application of McCasland Disposal System for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the intervals from approximately 3756 feet to 3851 feet and from approximately 3918 feet to 3939 feet, respectively, in the Getty Oil Company J. H. Day Wells Nos. 1 and 2, both located in the NW/4 of Section 8, Township 22 South, Range 36 East, Jalmat Pool, Lea County, New Mexico.
- CASE 4142: Application of Tamarack Petroleum Corporation, Inc., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water by injection into the Queen formation in the interval from 4946 feet to 5040 feet in its Cabot 15 State Well No. 2 located in Unit P of Section 15, Township 19 South, Range 35 East, Pearl-Queen Pool, Lea County, New Mexico.



CASE 4143: Application of Amerada Petroleum Corporation for downhole commingling and special gas-oil ratio limitation, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Eumont Gas Pool and the Skaggs-Grayburg Pool in the wellbore of its Fred Turner, Jr., "A" Well No. 2, the Eumont completion of which is presently classified as a gas completion, located in Unit K of Section 18, Township 20 South, Range 38 East, Lea County, New Mexico. Applicant, further seeks the establishment of a special gas-oil ratio limitation for the subject well.

(Continued from the May 7, 1969 Examiner Hearing)

CASE 4121: Application of Roger C. Hanks for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Bar U-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units and the assignment of 80-acre allowables.

**PAN AMERICAN PETROLEUM CORPORATION**

OIL AND GAS BUILDING

P. O. BOX 1410

FORT WORTH, TEXAS—76101

May 15, 1969

File: GHF-239-986.510.1

Subject: Pool Rule Hearing  
Bar-U Pennsylvanian Pool  
Lea County, New Mexico

D. L. RAY  
DIVISION ENGINEER

New Mexico Oil Conservation Commission  
Post Office Box 871  
Santa Fe, New Mexico 87501

Gentlemen:

It is our understanding that additional testimony will be heard on May 21, 1969, regarding the 160-acre Pool Rules requested by Roger C. Hanks in his initial hearing on May 7, 1969 (Case 4121).

Pan American Petroleum Corporation hereby supports Roger C. Hanks in his request for 160-acre units for the subject pool.

Yours very truly,

*D. L. Ray*

WCW:jp

cc: Roger C. Hanks  
606 Wall Towers West  
Midland, Texas 79701

## CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

# WESTERN UNION

## TELEGRAM

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

R. W. MCFALL  
PRESIDENT

## SYMBOLS

DL=Day Letter  
NL=Night Letter  
LT=International Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

LA015 SSB083

1969 MAY 19 AM 8 59

L RWA004 PD=ROSWELL NMEX 19 830A MDT=  
NEW MEXICO OIL CONVERSATION COMMISSION=  
SANTA FE NMEX=

MAIN OFFICE

1969 MAY 19 AM 9 14

REFERENCE DOCKET NUMBER 15-69, MAY 21 HEARING, CASE 4121  
HANKS APPLICATION FOR SPECIAL POOL RULES, BAR/U  
PENNSYLVANIAN, INCLUDING PROVISIONS FOR 160 ACRE  
SPACING= 80 ACRE ALLOWABLES.

UNION OF CALIFORNIA HEREBY SUPPORTS THE APPLICATION  
OF HANKS AS PRESENTED=

UNION OIL CO OF CALIFORNIA BY W M STANLEY  
DISTRICT LAND MANAGER=

WU1201 (R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

## CLASS OF SERVICE

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# WESTERN UNION

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R. W. MCFALL  
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LA016 NSA100

Case 4121

1969 MAY 19 AM 9 11

NS MDA024 RS PD=MIDLAND TEX 19 952A CDT=  
= DON NUTTER=  
NEW MEX OIL CON COMM SANTA FE NMEX=

MIDWEST OIL CORP SUPPORTS ROGER C HANKS IN HIS REQUEST  
FOR 160 ACRES SPACING IN THE BAR U PENNSYLVANIAN POOL.  
NEW MEXICO OIL CONSERVATION COMMISSION CASE #4121. IT  
IS OUR OPINION THAT BOTTOM HOLE PRESSURE DECLINE IS  
EVIDENCE OF RESERVOIR COMMUNICATION AND THE ABILITY OF  
A BOUGH C WELL TO DRAIN AT LEAST 160 ACRES.  
IN ADDITION WE BELIEVE THAT IT IS NOT ECONOMICAL TO

WU1201 (R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

**CLASS OF SERVICE**  
This is a fast message  
unless its deferred char-  
acter is indicated by the  
proper symbol.

# WESTERN UNION TELEGRAM

W. P. MARSHALL  
CHAIRMAN OF THE BOARD

R. W. McFALL  
PRESIDENT

**SYMBOLS**  
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Letter Telegram

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DEVELOP ON LESS THAN 160 ACRE SPACING  
C F QUALIA MIDWEST OIL CORP==

160 U #4121 160 160

WU1201(R2-65)

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

A/C 915 682-3764

ROGER C. HANKS

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

PH 8  
MAY 19 1969

Telegrams reference the New Mexico Oil Conservation Commission hearing scheduled for May 21, 1969 on Field Rules for the Bar U Pennsylvanian Field, Lea County, New Mexico, case # 4121.

TELEGRAM RECEIVED BY TELEPHONE

C O P Y

EUGENE MCELVANEY JR.  
PETROLEUM BLDG.

AT 7AM WEDNESDAY MAY 14, 1969 ALL WELLS IN THE BAR U  
PENN FIELD WILL SHUT-IN TO COMMENCE BOTTOM HOLE  
PRESSURE BUILD UP TEST. THE BOTTOM HOLE PRESSURE BOMBS  
WILL BE PULLED OUT OF THE HOLE NO EARLIER THAN 7AM ON  
FRIDAY MAY 16, 1969. THE FOLLOWING WELLS WILL HAVE BOMBS  
RUN - THE ROGER C HANKS BRIDWELL STATE 1 AND 2, THE  
LARIO OIL AND GAS STATE B 1 AND 2. YOUR REPRESENTATIVE  
WILL BE ADMITTED TO WITNESS THE ACTUAL OPERATIONS OF  
THESE TEST

MAY 12 500P CDT

PD

682 3764

ROSWELL NMEX.

ROGER C HANKS

WU 560 (1-52)

Copy.

MAY 13 1 25A CST

EUGENE MCELVANEY JR.  
PETROLEUM BLDG.

682 3734

ROSWELL NMEX

THIS IS TO NOTIFY YOU THAT STARTING ON OR ABOUT 7AM  
FRIDAY MAY 16, 1969 BOTTOM HOLE PRESSURE BOMBS WILL  
BE TAKEN OUT OF THE 4 PREVIOUSLY TESTED WELLS IN THE  
BAR U PENN FIELD. IF YOU DESIRE TO WITNESS THE FINAL  
RESULTS OF THESE TESTS YOUR REPRESENTATIVE SHOULD BE  
PRESENT ON THE LOCATION BETWEEN 7AM AND 9AM MOUNTAIN  
STANDARD TIME AT THE BAR U PENN FIELD IN LEA COUNTY  
NMEX

ROGER C HANKS

WU 550 (1-73)

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 15 1969

MIDLAND OFFICE

Bridwell Oil Company  
Drawer 1830  
Wichita Falls, Texas 76310

Gentlemen:

Enclosed is a copy of my application for Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico requesting 160 acre spacing, with voluntary 80 ac. allowable.

As most operators in the North Lea and Chaves-Roosevelt area agree the Bough "C" zone of the Pennsylvanian will sufficiently drain 160 acres, I ask your support of my application.

Please so indicate your approval of my application by signing in the blank space provided below, returning one executed copy to the undersigned and retaining one copy for your files. The case number and trial date will be forwarded to you on receipt from the Commission.

Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,

*Roger C. Hanks*

Roger C. Hanks

*Rosen,*  
RCH/kw

*We are opposed to this application.  
I believe your wells are on 80 acres.*

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

\_\_\_\_\_ day of \_\_\_\_\_, 1969.

By \_\_\_\_\_



ROGER C. HANKS

*Operating Company*

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 10 1969

MIDLAND OFFICE

Superior Oil Company  
P. O. Box 1900  
Midland, Texas 79701

Gentlemen:

Enclosed is a copy of my application for Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico requesting 160 acre spacing, with voluntary 80 ac. allowable.

As most operators in the North Lea and Chaves-Roosevelt area agree the Bough "C" zone of the Pennsylvanian will sufficiently drain 160 acres, I ask your support of my application.

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Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,

*Roger C. Hanks*

Roger C. Hanks

RCH/kw

The Superior Oil Company

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

10<sup>th</sup> day of April, 1969.

By

*J. H. Collier Jr.*

40-010-002-1704

ROGER C. HANKS

Operating Company  
606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701  
April 9, 1969

RECEIVED

APR 11 1969

MIDLAND OFFICE

Great Western Drilling Company  
P. O. Box 1659  
Midland, Texas 79001

Gentlemen:

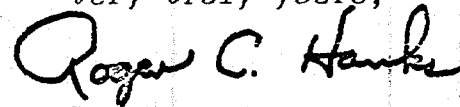
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Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,

  
Roger C. Hanks

RCH/kw

Great Western Drilling Company

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

10th day of April, 1969.

By 

PCH

4-10-69

Good Luck on this!

Brant H



ROSWELL STA

ROSWELL, NEW MEXICO

PAY TO THE  
ORDER OF

THIS CHECK IS IN FULL SETTLEMENT OF ACCOUNT A

KNOW YOUR ENDORSER—REQUIRE IDENTIFICATION

SOUTHWESTERN ARABILLO, TEXAS

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 11 1969

MIDLAND OFFICE

E. A. Hanson  
200 West First Street  
Roswell, New Mexico 88201

Gentlemen:

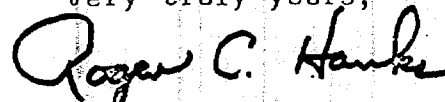
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Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,

  
Roger C. Hanks

RCH/kw

E. A. Hanson

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

10<sup>th</sup> day of April, 1969.

By 

RECEIVED

APR 14 1969

MIDLAND OFFICE

ROGER C. HANKS

Operating Company

600 WALL TOWERS WEST

MIDLAND, TEXAS 79701

April 9, 1969

Lario Oil Company  
P. O. Box 155  
Midland, Texas 79701

Gentlemen:

Enclosed is a copy of my application for Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico requesting 160 acre spacing, with voluntary 80 ac. allowable.

As most operators in the North Lea and Chaves-Roosevelt area agree the Bough "C" zone of the Pennsylvanian will sufficiently drain 160 acres, I ask your support of my application.

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Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,

*Roger C. Hanks*

Roger C. Hanks

RCH/kw

Lario Oil Company

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

10<sup>th</sup> day of April, 1969.

By D. A. Chase  
General Pool Supt.

RECEIVED  
APR 14 1969  
MIDLAND OFFICE

ROGER C. HANKS  
Operating Company  
605 WALL TOWERS WEST  
MIDLAND, TEXAS 79701  
April 9, 1969

RECEIVED  
APR 14 1969  
L.A. OFFICE

Bell Petroleum Company  
First Savings Building  
Midland, Texas 79701

Gentlemen:

Enclosed is a copy of my application for Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico requesting 160 acre spacing, with voluntary 80 ac. allowable.

As most operators in the North Lea and Chaves-Roosevelt area agree the Bough "C" zone of the Pennsylvanian will sufficiently drain 160 acres, I ask your support of my application.

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Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,

*Roger C. Hanks*  
Roger C. Hanks

RCH/kw

Bell Petroleum Company

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

11 day of April, 1969.

By O. Salzman

RECEIVED

APR 14 1969

MIDLAND OFFICE

ROGER C. HANKS

**Operating Company**

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

Sinclair - Atlantic Richfield  
P. O. Box 1470  
Midland, Texas 79701

Gentlemen:

Enclosed is a copy of my application for Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico requesting 160 acre spacing, with voluntary 80 ac. allowable.

As most operators in the North Lea and Chaves-Roosevelt area agree the Bough "C" zone of the Pennsylvanian will sufficiently drain 160 acres, I ask your support of my application.

Please so indicate your approval of my application by signing in the blank space provided below, returning one executed copy to the undersigned and retaining one copy for your files. The case number and trial date will be forwarded to you on receipt from the Commission.

Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,

Roger C. Hanks

RCH/kw

Sinclair-Atlantic Richfield

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

11<sup>th</sup> day of April, 1969.

By *E. H. Whitlock*

[illegible]



ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 14 1969

MIDLAND OFFICE

Charles Read  
Security National Bank Building  
Roswell, New Mexico 88201

Gentlemen:

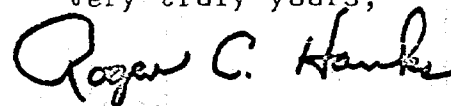
Enclosed is a copy of my application for Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico requesting 160 acre spacing, with voluntary 80 ac. allowable.

As most operators in the North Lea and Chaves-Roosevelt area agree the Bough "C" zone of the Pennsylvanian will sufficiently drain 160 acres, I ask your support of my application.

Please so indicate your approval of my application by signing in the blank space provided below, returning one executed copy to the undersigned and retaining one copy for your files. The case number and trial date will be forwarded to you on receipt from the Commission.

Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,



Roger C. Hanks

RCH/kw

Charles Read

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

10<sup>th</sup> day of April, 1969.

By 

RECEIVED AEC 019 012 3704

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

APR 15 1969

MIDLAND OFFICE

Cabot Corporation  
P. O. Box 3295  
Midland, Texas 79701

Gentlemen:

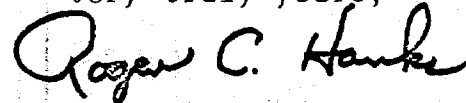
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Very truly yours,



Roger C. Hanks

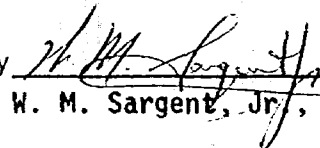
RCH/kw

Cabot Corporation

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

14th day of April, 1969.

By



W. M. Sargent, Jr., Chief Petroleum Engineer

NOTE: Original mailed to NMOCC  
on 4-14-69

RECEIVED

PRODUCTION DEPARTMENT  
J. R. NICHOLS  
Manager, Southwest Division

APR 15 1969



**SUN OIL COMPANY**

1101 WILCO BUILDING, MIDLAND, TEXAS 79701

MIDLAND OFFICE  
**DX DIVISION**



April 14, 1969  
PG-6

Roger C. Hanks, Operating Company  
606 Wall Towers West  
Midland, Texas 79701

Attention: Mr. Roger C. Hanks


Re: Application for Special  
Pool Rules, Bar-U Pen-  
sylvanian Pool, Lea  
County, New Mexico

Sun Oil Company - DX Division, having no objection to your application for Special Pool Rules for the above captioned field has executed your letter dated April 9, 1969.

As requested, we have enclosed this waiver of objection as an attachment to this letter.

Yours very truly,

SUN OIL COMPANY - DX DIVISION

  
J. J. Northcutt  
Division Engineer

dmp

Attachments

cc: C. T. McClanahan - F. D. Lebo w/attmts.

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 15 1969

MIDLAND OFFICE

RECEIVED  
APR 11 1969

EXPLORATION DEPT.

Sunray DX  
P. O. Box 1416  
Roswellm New Mexico 88201

Gentlemen:

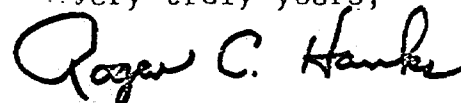
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Very truly yours,



Roger C. Hanks


RCH/kw

~~SUNRAY DX~~ SUN OIL COMPANY - DX DIVISION

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

14 day of April, 1969.

By

  
J. J. Northcutt  
Division Engineer

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 15 1969

MIDLAND OFFICE

Midwest Oil Corporation  
1500 Wilco Building  
Midland, Texas 79701

Gentlemen:

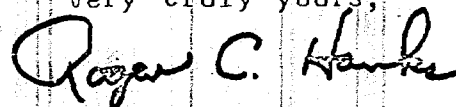
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Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,



Roger C. Hanks

RCH/kw

Midwest Oil Corporation

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

14th day of April, 1969.

By 

# PAN AMERICAN PETROLEUM CORPORATION

RECEIVED

APR 17 1969

OIL AND GAS BUILDING

P. O. BOX 1410

D. L. RAY  
DIVISION ENGINEER

FORT WORTH, TEXAS—76101

April 16, 1969

MIDLAND OFFICE

File: GHF-176-986.510.1

Subject: Hearing called by Roger C. Hanks  
to Consider Adoption of Field Rules,  
Bar-U Pennsylvanian Pool  
Lea County, New Mexico

New Mexico Oil Conservation Commission  
Post Office Box 871  
Santa Fe, New Mexico 87501

Gentlemen:

We have been informed by Mr. Roger C. Hanks that he intends to request adoption of field rules for the subject field. It is our understanding that these rules will include provisions for 160-acre units and 80-acre allowables for these units.

Pan American Petroleum Corporation has no objection to the 160-acre unit provision of the proposed field rules but we would prefer that a 160-acre oil allowable be assigned each 160-acre unit.

Yours very truly,

Original Signed  
D. L. RAY  
By JVM

WCW:jn

cc: Roger C. Hanks  
606 Wall Towers West  
Midland, Texas 79701

RECEIVED

APR 22 1969

MIDLAND OFFICE

ROGER C. HANKS  
Operating Company606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 14 1969

C. W. CARY

RECEIVED  
BY W. M. S.  
APR 17 1969Union Oil Co. of California  
Suite 300, Security National Bank Bldg.  
Roswell, New Mexico 88201

Gentlemen:

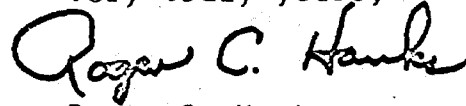
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Very truly yours,

  
Roger C. Hanks

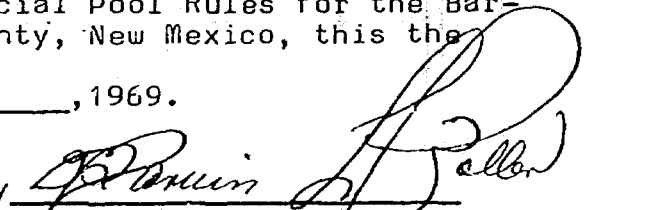
RCH/kw

Union Oil Co. of California

hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

21 day of April, 1969.

By

  
MARVIN L. ZOLLER  
Regional Development Geologist

ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST

MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 23 1969

MIDLAND OFFICE

Sun Oil Company  
P. O. Box 1861  
Midland, Texas 79701

Gentlemen:

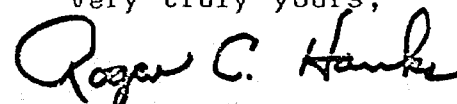
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Your immediate attention on the request for approval is requested as time is of the essence.

Very truly yours,



Roger C. Hanks

RCH/kw

Sun Oil Company

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

12 day of April, 1969.

By A. R. Ballou



ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

RECEIVED

APR 25 1969

MIDLAND OFFICE

McGrath and Smith  
Attn: Mr. Jim Taylor  
418 Building of the Southwest  
Midland, Texas 79701

Gentlemen:

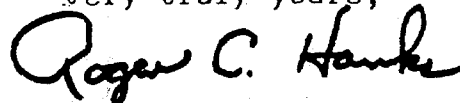
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Very truly yours,



Roger C. Hanks

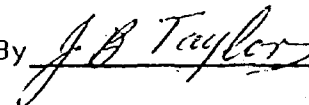
RCH/kw

McGrath and Smith

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

24 day of APRIL, 1969.

By



ROGER C. HANKS

Operating Company

606 WALL TOWERS WEST  
MIDLAND, TEXAS 79701

April 9, 1969

Southern Minerals Corporation  
P. O. Box 1816  
Midland, Texas 79701

Gentlemen:

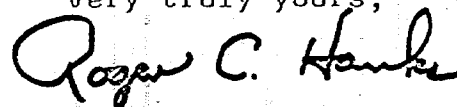
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Very truly yours,

  
Roger C. Hanks

RCH/kw

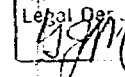
~~Southern Minerals Corporation~~

Hereby waives any objections on Application of Roger C. Hanks for the Adoption of Special Pool Rules for the Bar-U Pennsylvanian Pool, Lea County, New Mexico, this the

24th day of April, 1969.

By 

Wm. H. King, President

Approved by  
Legal Dep.  


DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 7, 1969

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

---

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

- CASE 4119: Application of Union Oil Company of California to directionally drill, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to directionally drill its Owens Well No. 1 located 1980 feet from the North and East lines of Section 34, Township 14 South, Range 35 East, Lea County, New Mexico. Said well was drilled to a total depth of 11,199 feet and plugged back to approximately 9,000 feet. Applicant proposes to set a whipstock at approximately 9,000 feet and to directionally drill to a depth sufficient to bottom said well in the Lower Hueco formation at a point approximately 2298 feet from the North line and 1662 feet from the East line of said Section 34 (approximately 450 feet Southeast of the surface location.)
- CASE 4120: Application of Sam Boren for the creation of a new gas pool, promulgation of special rules for the pool, a dual completion, and commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Wolfcamp gas pool for his Crowley State "A" Well No. 1 located in Unit L of Section 5, Township 12 South, Range 33 East, Lea County, New Mexico, and for the promulgation of special rules therefor, including a provision for 320-acre proration units. Applicant also seeks approval of the dual completion of said well to produce gas through the casing-tubing annulus from the aforesaid Wolfcamp pool and oil through tubing from the North Bagley-Lower Pennsylvanian Pool, commingling the liquid hydrocarbons from said pools on the lease. Applicant further seeks authority to commingle in the well-bore sufficient Wolfcamp gas to gas lift the Pennsylvanian oil.
- CASE 4121: Application of Roger C. Hanks for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Bar U-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units and the assignment of 80-acre allowables.
- CASE 4122: Application of Roger C. Hanks for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian

Docket No. 13-69  
Examiner Hearing - May 7, 1969  
-2-

(Case 4122 continued)

formation in the interval from approximately 12,878 feet to 13,011 feet in his Atlantic Tebworth Well No. 1 located in the SW/4 SW/4 of Section 25, Township 8 South, Range 36 East, Allison Field, Roosevelt County, New Mexico.

CASE 4123: Application of Kersey and Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Premier and Lovington sands of the Grayburg formation through its Dublin Well No. 3 located in the NW/4 NE/4 of Section 3, Township 17 South, Range 29 East, Square Lake Pool, Eddy County, New Mexico.

CASE 3405: (Reopened) - TO BE CONTINUED TO MAY 21, 1969

In the matter of Case No. 3405 being reopened pursuant to the provisions of Order No. R-3081, which order established 640-acre spacing for the North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico, for a period of one year after first pipeline connection in the pool. All interested parties may appear and show cause why said pool should or should not be developed on 320-acre spacing units.

CASE 4124: Application of Amerada Petroleum Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the State H "A" COM Unit Area comprising 1,281 acres, more or less, of State lands in Sections 18, 19, and 30 of Township 14 South, Range 35 East, Lea County, New Mexico.

CASE 4125: Application of Continental Oil Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the San Andres formation through ten wells in Sections 34 and 35, Township 16 South, Range 29 East, Forest-San Andres Pool, Eddy County, New Mexico.

CASE 4126: Application of Curtis Hankamer for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil or gas, or both, on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for the applicant's wells located in Sections 12, 13, 14, and 24, Township 26 South, Range 29 East, Brushy-Draw Delaware Pool, Eddy County, New Mexico. Applicant seeks

Docket No. 13-69

Examiner Hearing - May 7, 1969

-3-

(Case 4126 continued)

authority to continue to dispose of salt water produced by said wells in four unlined surface pits.

CASE 4127: Application of Curtis Hankamer for an exception to Order No. R-3221, as amended, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil or gas, or both, on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico, after January 1, 1969. Said exception would be for applicant's two wells located in Section 11, Township 24 South, Range 32 East, Double X-Delaware Pool, Lea County, New Mexico. Applicant seeks authority to continue to dispose of salt water produced by said wells in two unlined surface pits.

CASE 4128: Application of C. O. Fulton for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Premier and Lovington sands of the Grayburg formation through one well located in Unit D of Section 2, and two wells in Units D and P of Section 3, Township 17 South, Range 29 East, Square Lake Pool, Eddy County, New Mexico.

CASE 4117: (Continued from the April 23, 1969 Examiner Hearing)  
Application of Eastern Petroleum Company for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special rules for the Rattlesnake-Dakota Pool, San Juan County, New Mexico, permitting the drilling of wells on 2½-acre spacing provided that no well be located nearer than 50 feet to the outer boundary of the quarter-quarter section and no nearer than 165 feet to another well producing from the same pool, and provided further, that a 40-acre proration unit would be subject to a 40-acre allowable regardless of the number of wells on the unit.

CASE 4118: (Continued from the April 23, 1969 Examiner Hearing)

Application of Dugan Production Corporation for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle gas production from undesignated Fruitland and Pictured Cliffs gas pools in the well-bore of its Federal "I" Well No. 4, located in the NE/4 NW/4 of Section 1, Township 29 North, Range 14 West, San Juan County, New Mexico.

Docket No. 13-69  
Examiner Hearing - May 7, 1969  
-4-

CASE 4129: Application of Redfern Development Corporation for gas commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Devils Fork-Gallup gas and Basin-Dakota gas after separately metering the Dakota gas and determining the Gallup production by means of the subtraction method. Said production is from the dually completed Largo Spur Well No. 1 located in Unit J of Section 18, Township 24 North, Range 6 West, Rio Arriba County, New Mexico.

CLARENCE E. HINKLE  
W. E. BONDURANT, JR.  
S. B. CHRISTY IV  
LEWIS C. COX, JR.  
PAUL W. EATON, JR.  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
MICHAEL R. WALLER  
W. R. HUGHES, JR.

LAW OFFICES  
HINKLE, BONDURANT & CHRISTY  
600 HINKLE BUILDING  
ROSWELL, NEW MEXICO 88201

April 10, 1969

MIDLAND, TEXAS OFFICE  
521 MIDLAND TOWER  
(9:5) MU 3-4691  
OF COUNSEL: HIRAM M. DOW

TELEPHONE 672-6510  
AREA CODE 505  
POST OFFICE BOX 10

New Mexico Oil Conservation  
Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Attention: Mr. D. S. Nutter

Re: Roger C. Hanks  
Bar-U Pennsylvanian Pool  
Lea County, New Mexico

Gentlemen:

On April 7, 1969 we mailed you the application of Roger C. Hanks, Ltd. for promulgation of special pool rules for the Bar-U Pennsylvanian Pool. The application should have been that of Roger C. Hanks instead of Roger C. Hanks, Ltd. Please consider this letter as amending the application from that of Roger C. Hanks, Ltd. to Roger C. Hanks.

Yours very truly,

HINKLE, BONDURANT & CHRISTY

*Paul W. Eaton, Jr.*  
Paul W. Eaton, Jr.

PWE/jw

cc: Mr. Roger C. Hanks

DOCKET NUMBER

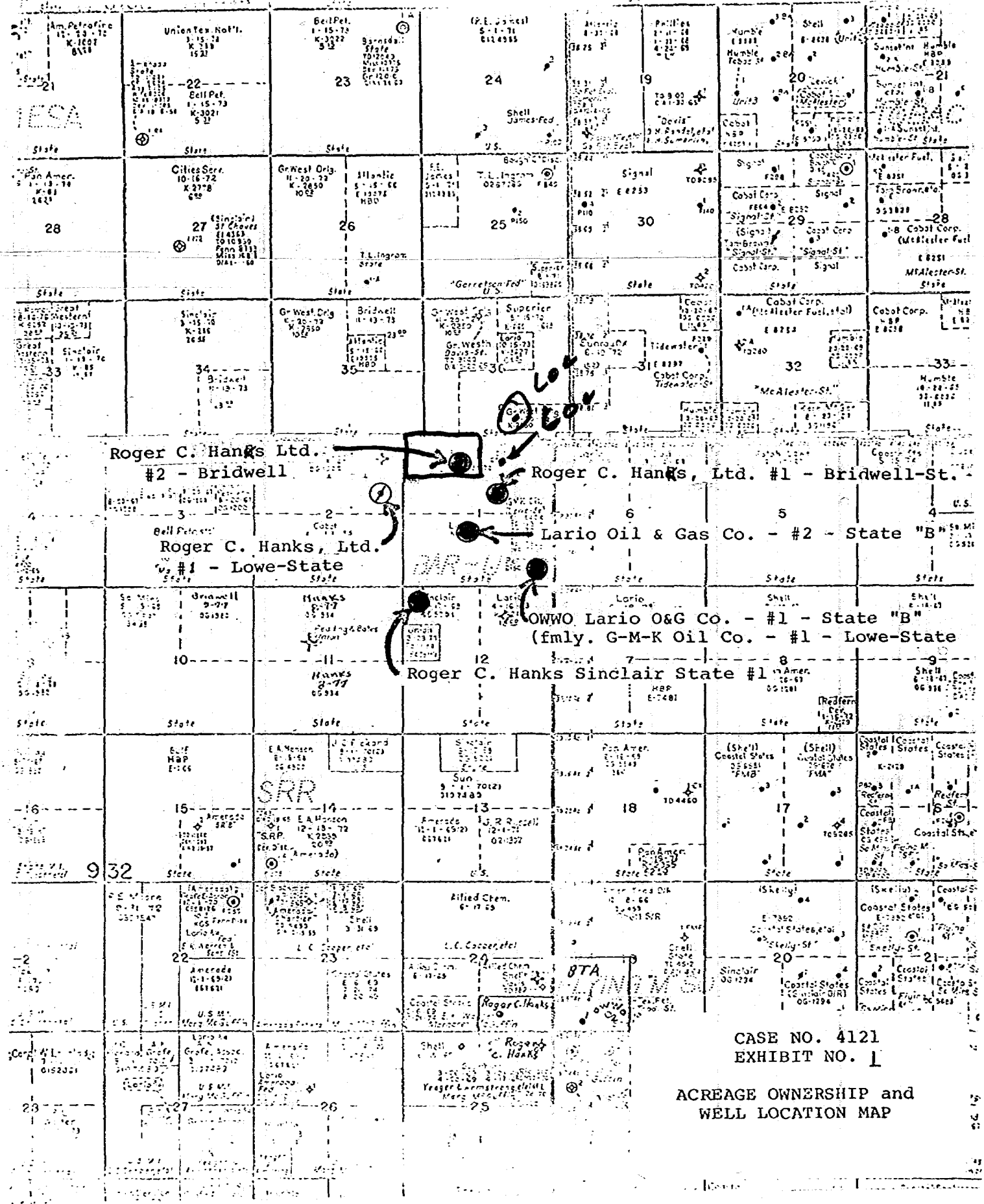
Date

EXHIBITS for CASE NO. 4121  
Application of Roger C. Hanks  
for Special Pool Rules,  
Bar "U" Field, Lea Co., N. M.

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
<i>Appl.</i>	EXHIBIT NO. <u>A</u>
CASE NO.	<u>4121</u>

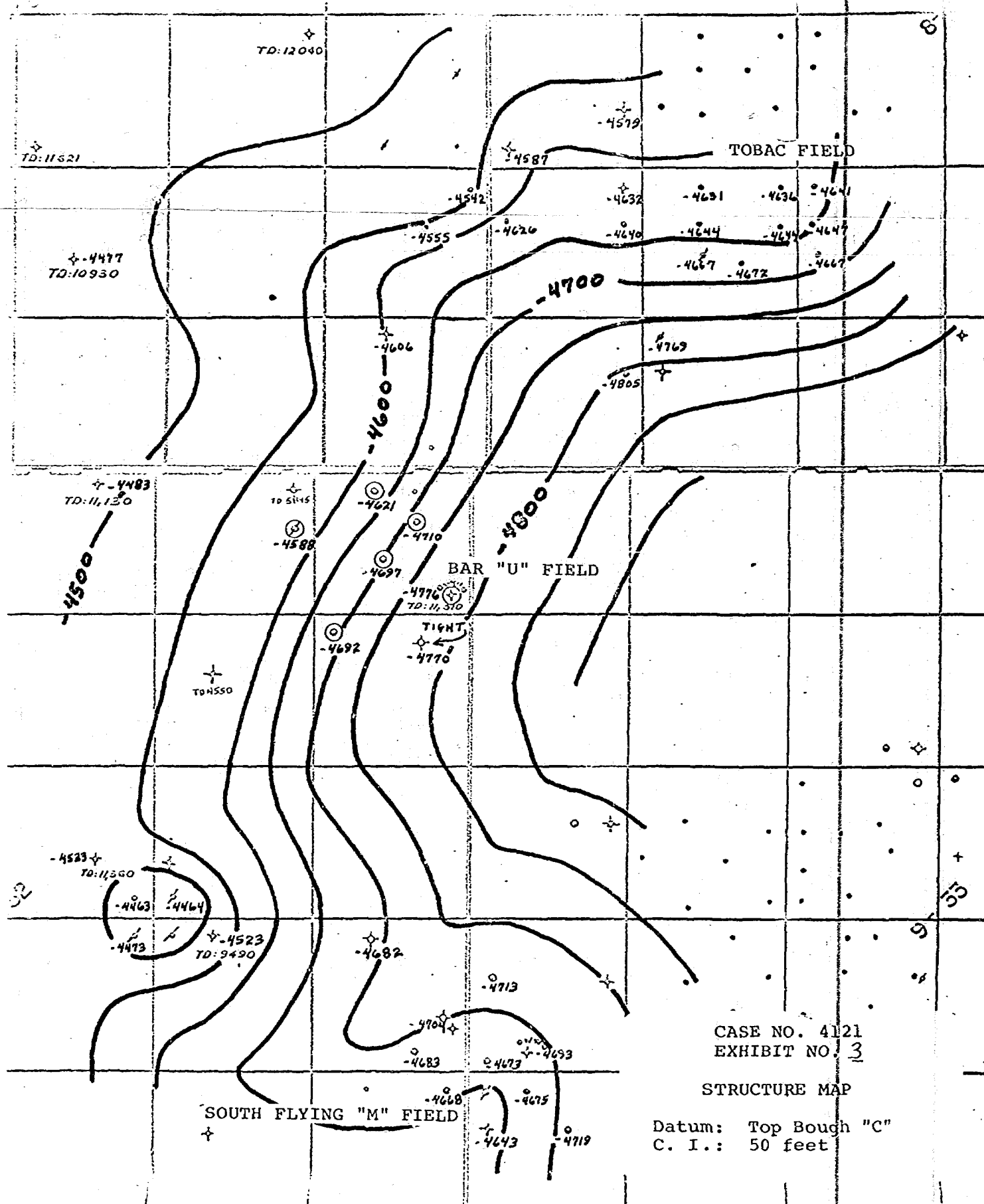
Prepared by:  
William J. LeMay  
Consulting Geologist  
Santa Fe, New Mexico





CASE NO. 4121  
EXHIBIT NO. 1

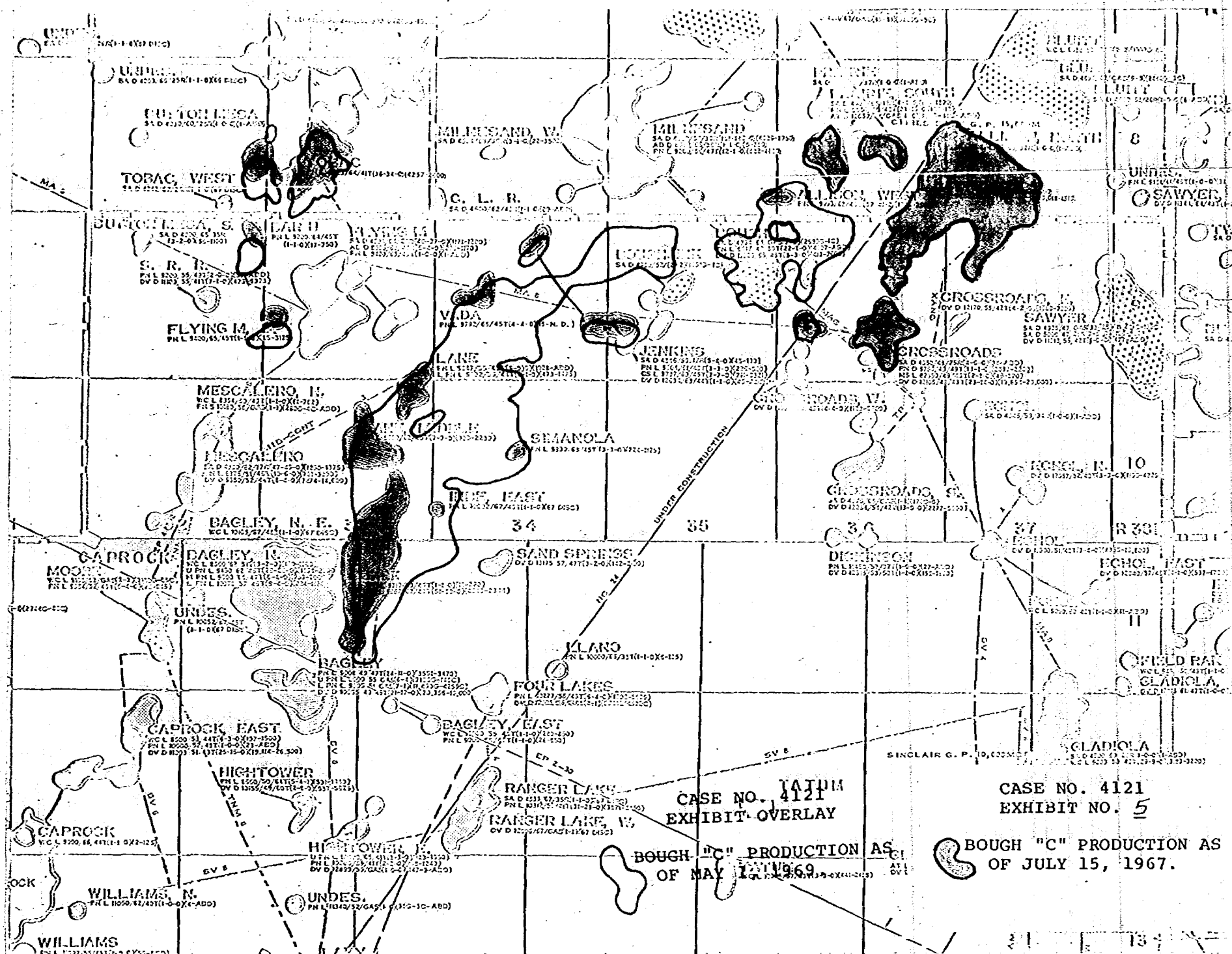
ACREAGE OWNERSHIP and  
WELL LOCATION MAP



Case No. 4121  
Exhibit No. 4

CHRONOLOGY AND SPACING OF COMMISSION ORDERS  
FOR BOUGH "C" FIELDS

<u>Case No.</u>	<u>Date of Order</u>	<u>Field</u>	<u>Well Spacing</u>
1125	Oct. 10, 1956	Lane	80
1637	Aug. 26, 1959	Allison	80
1735	Aug. 26, 1959	Bluitt	80
2554	June 17, 1963	So. Lane	80
2635	Aug. 21, 1963	Inbe	80
2942	Mar. 15, 1965	Siminola	80
3003	May 6, 1965	Tobac	80
3261	Feb. 15, 1967	Jenkins	160
3513	Sept. 12, 1968	Vada	160
3559	May 6, 1968	So. Flying "M"	80
3889	Nov. 21, 1968	Middle Allison	160 (temporary)

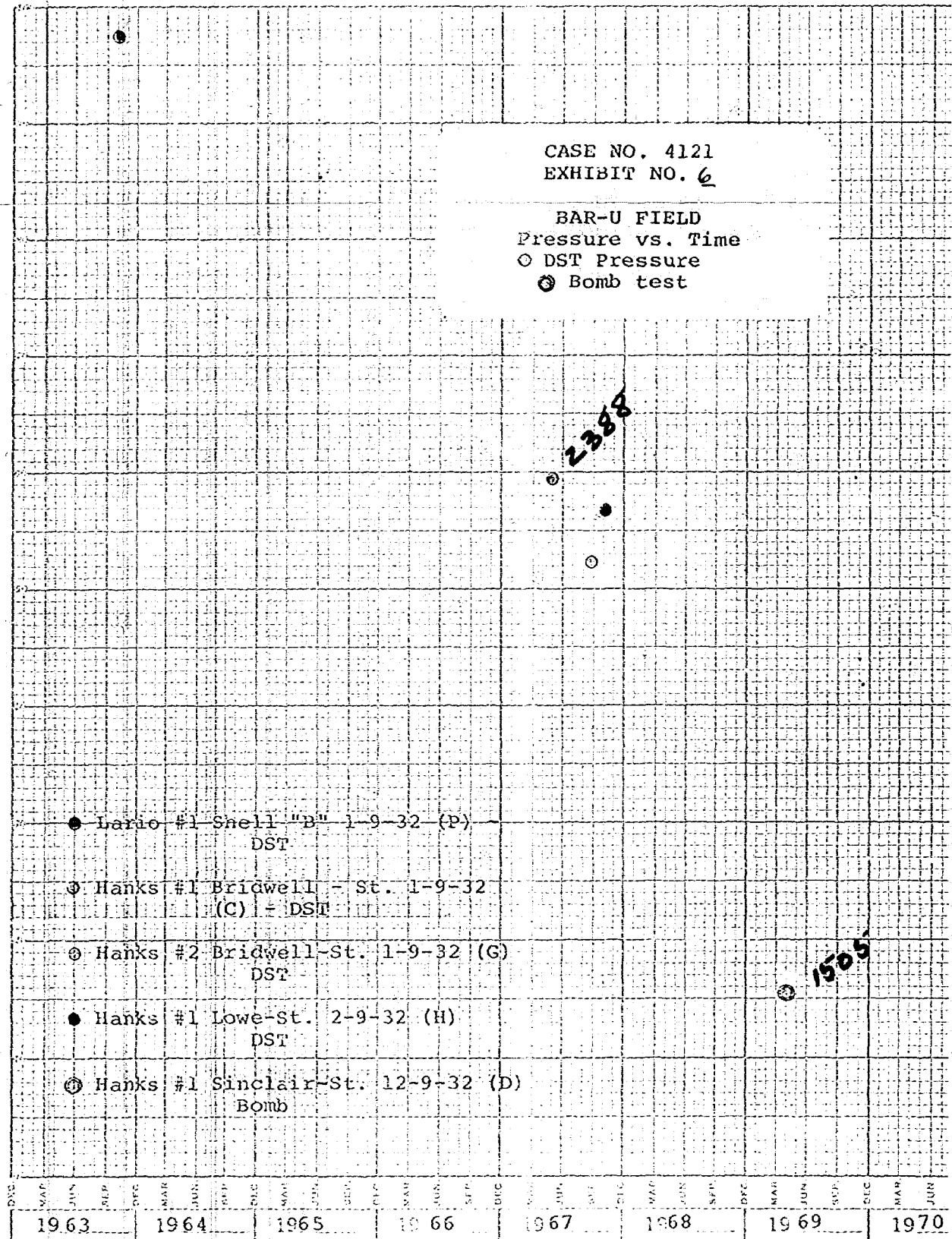


RESERVOIR PRESSURE - DST (-4720)

3200  
3100  
3000  
2900  
2800  
2700  
2600  
2500  
2400  
2300  
2200  
2100  
2000  
1900  
1800  
1700  
1600  
1500  
1400  
1300  
1000

CASE NO. 4121  
EXHIBIT NO. 6

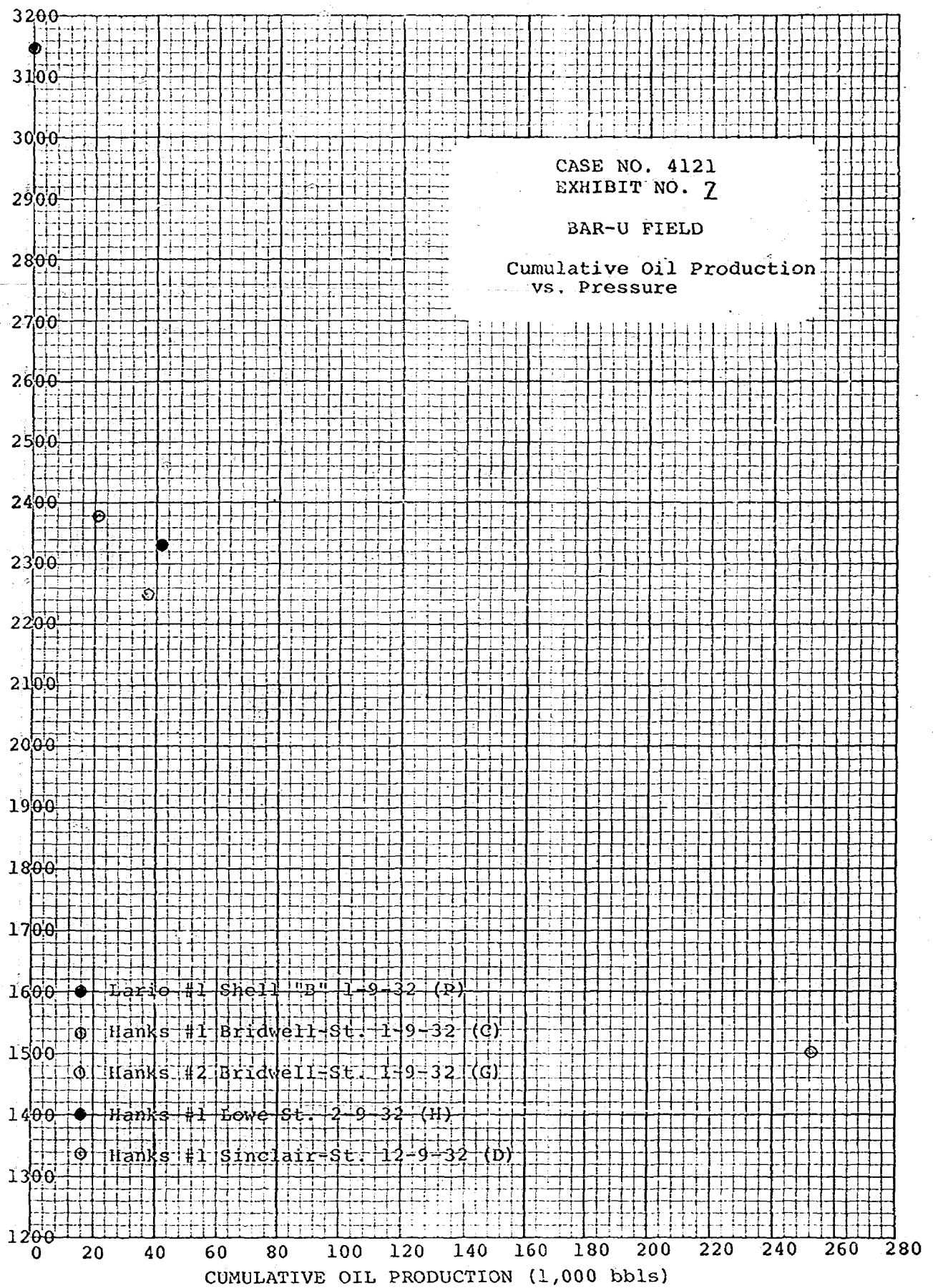
BAR-U FIELD  
Pressure vs. Time  
○ DST Pressure  
● Bomb test



EUGENE DIETZGEN CO.  
MADE IN U. S. A.

NO. 340 10 DIETZGEN GRAPH PAPER  
10 X 10 PER INCH

RESERVOIR PRESSURE @ -4720



CASE NO. 4121  
EXHIBIT NO. 8

BOUGH C RESERVOIR DATA IN BAR "U" FIELD

POROSITY	Range	5-10%
POROSITY	Average	8%
WATER SATURATION	Log calc.	35%
FORMATION VOLUME FACTOR		1.50
RECOVERY FACTOR	Estimate	40%
NET PAY	Range	6-12'
NET PAY	Average	10'
BUBBLE POINT		3200'
RESERVOIR PRESSURE @ ABANDONMENT		500
OIL GRAVITY		46° API @ 60°
SOLUTION GOR		1000 CF/Bbl. (from production)
OIL IN PLACE		$= \frac{7758 \times 0.08 \times 0.65}{1.50}$
		= 269 Bbl/Acre Ft.
ESTIMATED ULTIMATE RECOVERABLE OIL		$= 269 \times 40\% \text{ or } 107 \text{ Bbl/Acre Ft.}$ $= 107 \times 10' \text{ or } 1070 \text{ Bbl/Acre}$ $= 85,600 \text{ Bbl/80 Acres}$ $= 171,200 \text{ Bbl/160 Acres}$
EXTIMATED % DEPLETED		$= \frac{3146 - 1505}{3146 - 500} \times 100 \text{ or } 62\%$
RECOVERABLE RESERVES @ 4/15/69 @ 38%		$= 32,528 \text{ Bbls/80 acres}$ $= 65,056 \text{ Bbls/160 acres}$
RECOVERABLE RESERVES @ 4/15/69 @ 50%*		$= 42,800 \text{ Bbls/80 acres}$ $= 85,600 \text{ Bbls/160 acres}$

\* Derived from Exhibit No 726 Projection.

CASE NO. 4121  
EXHIBIT NO. 9

BAR "U" FIELD ECONOMICS

GROSS INCOME (OIL & GAS)	\$3.43/Bbl.
WORKING INTEREST INCOME @ 87.5%	3.00/Bbl.
OPERATING COSTS (.50) AND TAXES (.21)	.71/Bbl.
NET WORKING INTEREST INCOME (87.5%)	\$2.29/Bbl.
NET WORK INTEREST INCOME (75% W.I.)	\$1.86/Bbl.

ASSUMING NO DEPLETION OF RESERVES:

WELL SPACING	80	160
ESTIMATED RECOVERY - BBLs	85,600	171,200
TOTAL NET INCOME	\$196,024.	\$392,048.
DEVELOPMENT COST PER WELL	\$175,000.	\$175,000.
NET PROFIT PER WELL	\$ 21,024.	\$217,048.
RETURN ON INVESTMENT (87.5% W.I.)	1.20%	2.24%
NET INCOME (75% W.I.)	\$159,216.	\$318,432.
PROFIT OR (LOSS) PER WELL (75% W.I.)	(\$15,784.)	\$143,432.

ALLOWING FOR ESTIMATED DEPLETION OF RESERVES (87.5% W.I.)

ESTIMATED RECOVERY - BBLs	32,528	65,056
TOTAL NET INCOME <del>(28% DEPLETION)</del> <sup>62</sup>	\$ 74,489.	\$148,978.
DEVELOPMENT COST PER WELL	\$175,000.	\$175,000.
NET PROFIT (LOSS) PER WELL	(\$100,511)	(\$26,022)
NET INCOME @ 50% DEPLETION	\$ 98,012.	\$196,024.
PROFIT OR (LOSS) @ 50% DEPLETION	(\$76,988)	\$ 21,024.



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. *appl*  
CASE NO. *4124*

EXHIBIT 1  
SHUT IN PRESSURES  
BAR U (PENN) FIELD  
LEA COUNTY, NEW MEXICO

Operator Well	Date	Shut In Time, Hrs.	Bottomhole Pressure @ -4600' psi
Roger C. Hanks			
Bridwell State No. 1 6:43A 5/14	5-16-69	50.0	1327
Bridwell State No. 2 11:00A 5/13	5-16-69	71.2	1364
Sinclair State No. 1 6:35A 5/14	4-17-69	74.0	1469
Lario Oil & Gas Company			
State "B" No. 1 6:37A 5/14	5-16-69	50.5	1390
State "B" No. 2 6:41A 5/14	5-16-69	51.2	1348
Average on 5-16-69			1357

BEFORE EXAMINER NOTAR  
OIL CONSERVATION COMMISSION  
APP. EXHIBIT NO. B-1  
CASE NO. 4121

Estimates that static inc. press was  
1390 at 5/16 if you extrapolate  
two pressures which were not  
complete from let up.

BAILEY, SIPES, WILLIAMSON & RUNYAN, INC.  
1100 V & J TOWER MIDLAND, TEXAS 79701  
L. D. SIPES, JR., P.E./zt JUNE 2, 1969

EXHIBIT 1

B-1

EXHIBIT 2

RESERVOIR PRESSURE vs CUMULATIVE PRODUCTION

BAR U (PENN.) FIELD

LEA COUNTY, NEW MEXICO

RESERVOIR PRESSURE - 4600, PSI

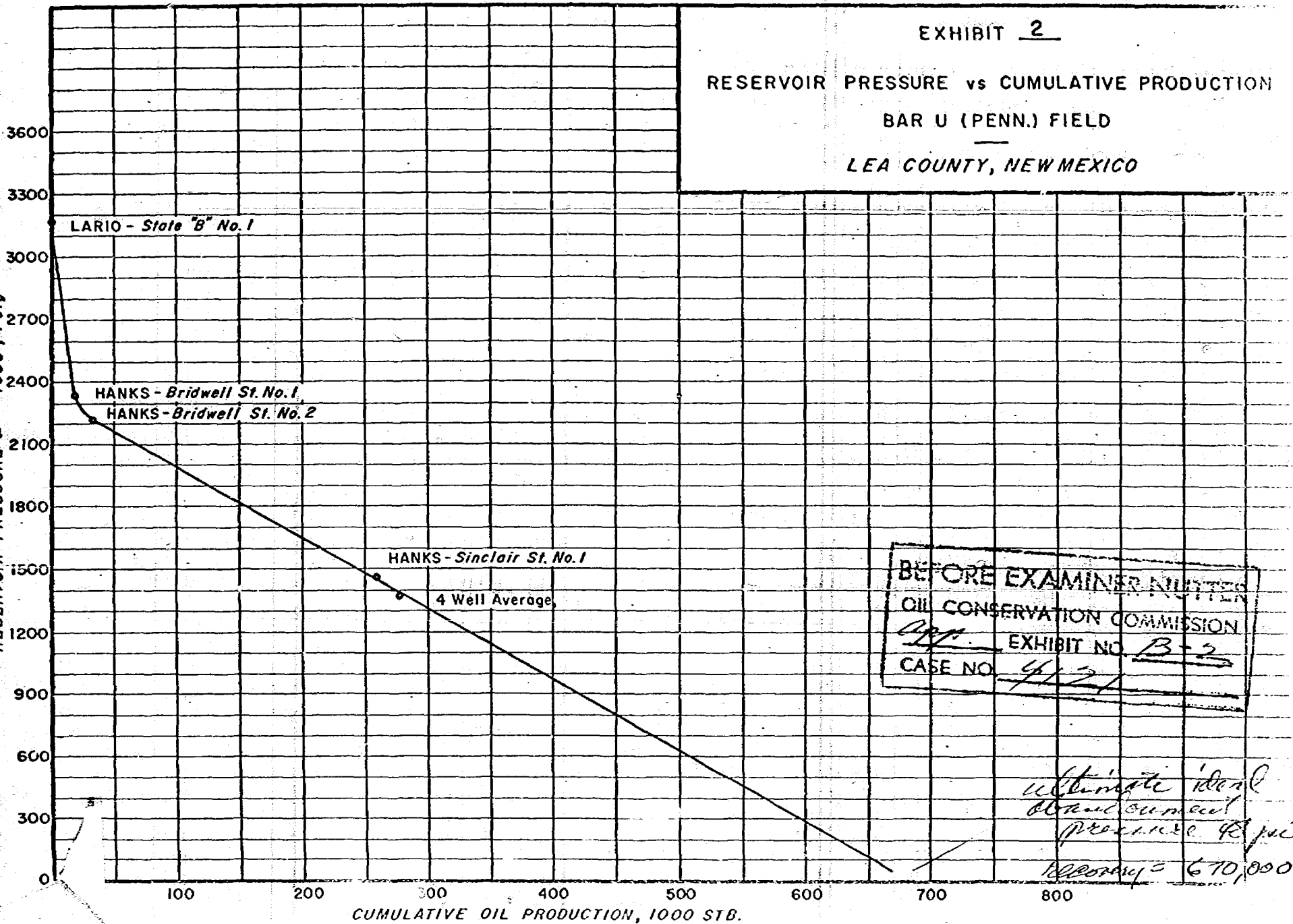


EXHIBIT 3  
CALCULATION OF THEORETICAL RESERVOIR  
PRESSURE AT ABANDONMENT

Example Well Roger C. Hanks-Bridwell State No. 2

Abandonment Conditions:

Oil rate, Bbl/D	23
Water rate, Bbl/D	2
Fluid viscosity, cp	0.60
Formation capacity, Md. ft.	425
Wellbore pressure, psi	0

For 160 acre spacing

$$P_e - P_w = \frac{Q \mu \ln \frac{r_e}{r_w}}{7.07 kh}$$

$$P_e - 0 = \frac{[23 (1.2) + 2] 0.60 \ln (1491/0.5)}{(7.07) (0.425)}$$

$$P_e = \frac{(30) (0.60) (8.0)}{(7.07) (0.425)}$$

$$P_e = \underline{48 \text{ psi}}$$

For 80 acre spacing

$$P_e - P_w = \frac{[23 (1.2) + 2] 0.60 \ln (1110/0.5)}{(7.07) (0.425)}$$

$$P_e - 0 = \frac{(30) (0.60) (7.7)}{(7.07) (0.425)}$$

$$P_e = \underline{46 \text{ psi}}$$

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
<u>APP.</u>	EXHIBIT NO. <u>B-3</u>
CASE NO. <u>4121</u>	

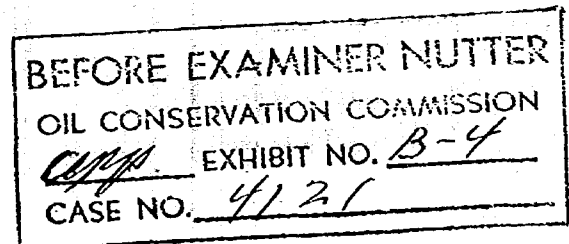
BAILEY, SIPES, WILLIAMSON & RUNYAN, INC.  
1100 V & J TOWER MIDLAND, TEXAS 79701  
L. D. SIPES, JR., P.E./zt JUNE 2, 1969

EXHIBIT 3

EXHIBIT 4  
BOUGH C RESERVOIR DATA  
BAR U (PENNY) FIELD  
LEA COUNTY, NEW MEXICO

From performance data:

Cumulative production 5-16-69 =	277,579
Reservoir pressure 5-16-69 =	1,390
Reservoir pressure @ abandonment =	48 psi
Recovery factor =	294 STB/psi
Maximum Remaining Reserves 5-16-69 =	294 (1380-48)
=	392,000 STB
Average reserves on 5-16-69 for current wells =	78,400 STB



BAILEY, SIPES, WILLIAMSON & RUNYAN, INC.  
1100 V & J TOWER MIDLAND, TEXAS 79701  
L. D. SIPES, JR., P.E./zt JUNE 2, 1969

EXHIBIT 4

23  
30  
690  
3  
2070

18¢/MCF  
\$3.26/bbl

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. B-5  
CASE NO. 4121

EXHIBIT 5  
WELL ECONOMICS  
BAR U (PENN) FIELD

Calculation of Gross Income for Average Well with 87.5% Working  
Interest Assuming No Depletion of Reserves

Sipes  
Recommend 160 ac units  
47 80 ac add'l  
Wells on  
Acres 40

Ultimate Recovery for Field =

670,000 Bbl.

Well Spacing, Acres	80	160
Number of Wells	10	5
Average Ultimate Recovery per Well, Bbl.	67,000	134,000
Gross Revenue, \$	201,000	402,000
Economic Life, Years	2.5	5
Operating Costs @ \$2,060/Month	61,750	123,500
Total Net Revenue, \$	139,250	278,000
Development Cost, \$	205,000	205,000
Net Profit (Loss), \$	(65,750)	73,500

Calculation of Gross Income for an Average Well with 87.5% Working  
Interest Drilled 5-16-69

Well Spacing, Acres	80	160
Number of Wells	10	5
Maximum Remaining Reserves, Bbl.	392,000	392,000
Average Remaining Reserves, Bbl.	39,200	78,400
Gross Revenue, \$	117,500	235,000
Economic Life, Years	2	4
Operating Costs @ \$2,060/Month	49,500	99,000
Total Net Revenue, \$	68,000	136,000
Development Cost, \$	205,000	205,000
Net Profit (Loss), \$	(137,000)	(69,000)

BAILEY, SIPES, WILLIAMSON & RUNYAN, INC.  
1100 V & J TOWER MIDLAND, TEXAS 79701  
L. D. SIPES, JR., P.E./zt JUNE 2, 1969

EXHIBIT 5

BNR U Field    h&h County New Mexico

PRESSURES -    May 14-16    1969    Survey

<u>LEASE &amp; WELL Number</u>	<u>PERFORATIONS</u>	<u>MEASUREMENT DEPTH</u> (FROM OF ELEVATION)	<u>D.F. ELEVATION</u>	<u>MEASURED PRESSURE</u> (PSI)	<u>GRADIENT USED</u> (PSI/FT)	<u>DEPTH CORRECTION</u> FEET	<u>DATUM PRESSURE</u> (-4794') PSI
LARIO STATE B-1	9210-12	9211	4417	1454	-	-	1390 1454
LARIO STATE B-2		9100	4415 (EST)	1382	0.40	109	1348 1426
ROGER HAWES BRIDWELL No 1	9137-40	9100	4411	1356	0.45	105	1327 1402
ROGER HAWES BRIDWELL No 2	9053-67	8980	4423	1333	0.40	237	1364 1428
				$\bar{X}_{n=4}$			1427.5

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
Mr. Elmeray EXHIBIT NO. R-1  
CASE NO. 4121

Exhibit No 1

6/3/69

Viney

## Exhibit No 2

### Pressure Data - BAR U Field - Lea County New Mexico

<u>OPERATOR, LEASE &amp; Well Number</u>	<u>DATE OF TEST</u> (MONTH - YEAR)	<u>RECORDED PRESSURE</u>	<u>FLUID GRADIENT USED</u>	<u>DEPTH CORRECTION</u>	<u>DATUM PRESSURE</u> ① - 4794
HARD Statz "B" No 1	9-1963	2967	-	-	2967.
Roger Hanks Bridwell State No 1	5-1967	2388	0.45	105	2434
Roger Hanks Bridwell State No 2	9-1967	2245	0.40	237	2340.
HARD State B No 1	5-1969	1454	-	-	1454

## EXHIBIT No 3

### PRESSURE & PRODUCTION DATA BAR U FIELD - LEA COUNTY NEW MEXICO.

<u>DATE</u> MONTH - YEAR	<u>DATUM PRESSURE</u> psi @ (- 4794)	<u>Δ PRESSURE</u> psi	<u>CUMULATIVE OIL</u> - barrels -	<u>CUMULATIVE FLUID</u> - barrels -
9-1963	2967	-	-	-
5-1967	2434	533 ✓	27,000	156,000
9-1967	2340	627	47,000	223,000
5-1969	1454	1513	267,000 (EST)	855,000 (EST)

6/3/1969  
BWP

BEFORE EXAMINER MUTTER  
OIL CONSERVATION COMMISSION  
McElroy EXHIBIT NO. R-2 & R-3 & R-4  
CASE NO. 4121  
actually there is no.  
No. 4 - 70105.

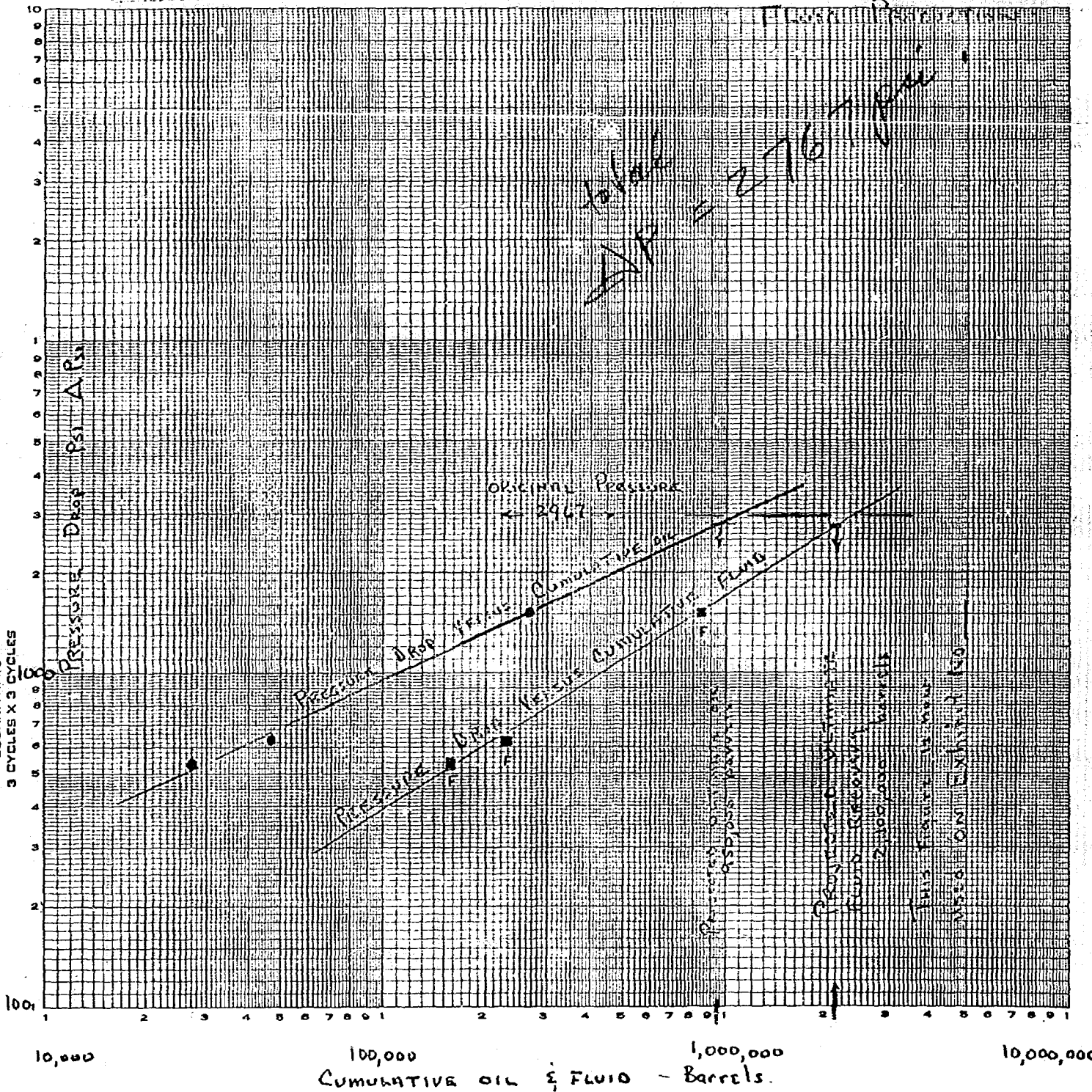


W. H. H. R-5  
#4121

BAR U Field  
Hera County New Mexico  
DIFFERENTIAL PRESSURE  
VS Cumulative oil &  
Fluid

EUGENE DIETZGEN CO.  
MADE IN U. S. A.

NO. 340R-L33 DIETZGEN GRAPH PAPER  
LOGARITHMIC  
3 CYCLES X 3 CYCLES

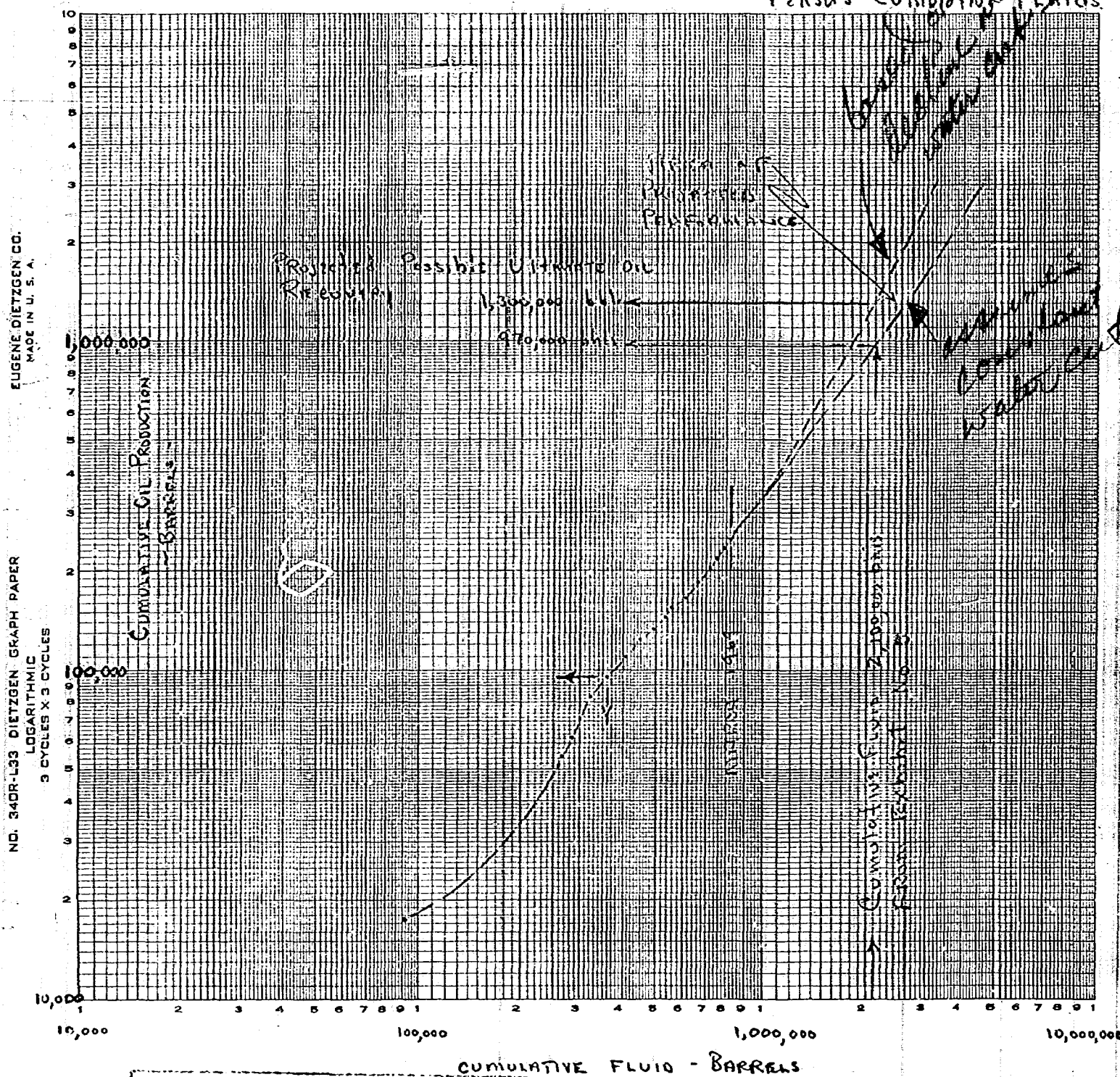


Ryv  
6/3/66

Exhibit No. 5

BAR U Field  
 Lea County New Mexico.

Cumulative oil production  
 Versus Cumulative Fluids



BEFORE EXAMINER MUTTER  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. B-6  
 CASE NO. 4121

*RMV*  
 6/3/69

Exhibit No 6

BY AW DATE 6/3/69  
 CHKD. BY DATE

SUBJECT EXHIBIT No 7

SHEET NO. OF  
 JOB NO.

BARR V FIELD KSA County New Mexico.

Summary of Oil, Water & Total Fluid Production

BEFORE EXAMINER NOTED  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 8-7  
 CASE NO. 41121

Year and/or Month	Oil Production - Barrels		Water Production - Barrels		Total Fluid - Barrels	
	Period	Cumulative	Period	Cumulative	Period	Cumulative
1966						
	17474	17474	73179	73179	90653	90653
1967						
	37400	54874	138569	211748	175969	206622
1968						
Jan	7385	62259	9106	220854	16491	283113
F	8564	70822	8086	228940	16650	299763
M	12417	83240	8894	237834	21311	321074
A	13292	96532	25120	262954	38412	359486
M	14024	110556	32588	295542	46612	406098
June	12458	123014	24487	325029	41945	448043
July	9867	132881	32120	357149	41987	490038
A	12042	144923	28250	385399	40292	530322
S	10377	155300	15310	400709	25687	556009
O	12449	167749	43702	444411	56151	612160
N	17773	185522	32820	477231	50593	662753
Dec	17741	203313	33168	510399	50959	713712
1969						
Jan	15438	218751	21578	531971	37016	750728
F	12687	231438	20564	552541	33251	783979
March	17603	249041	21321	573862	38924	822903

NOTE: Gas production not tabulated due to incomplete reporting of gas produced prior to pipeline connection.

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FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

# NEW MEXICO OIL CONSERVATION COMMISSION

HOBBBS OFFICE O.C.C.  
APR 16 2:14 PM '69

Form C-101  
Revised 1-1-65

5A. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
5. State Oil & Gas Lease No. OG-3920
7. Unit Agreement Name None
8. Farm or Lease Name Bridwell-State
9. Well No. 1.
10. Field and Pool, or Wildcat Bar-U
12. County Lea
19. Proposed Depth 9,200'
19A. Formation Bough "C"
20. Rotary or C.T. Rotary
21. Elevations (Show whether DF, RT, etc.) 21A. Kind & Status of Bond Single Well - New Mexico (USF&G Co.) 21B. Drilling Contractor Not awarded
22. Approx. Date Work will start May 15, 1969.

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work b. Type of Well DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>	2. Name of Operator Eugene McElvaney, Jr.	3. Address of Operator 859 Petroleum Building, 200 West 1st. St., Roswell, New Mexico 88201	4. Location of Well UNIT LETTER B LOCATED 660 FEET FROM THE North LINE AND 1,980 FEET FROM THE East LINE OF SEC. 1 TWP. 9 South R. 32 East N. 1/4
---	--	--	---

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17-1/2"	11-3/4"	@32#	310'	350	Circ
12"	8-5/8"	24-32#	3,650'	300	
7-7/8"	5-1/2"	16#	9,200'	300	

Operator will drill with rotary rig to depth sufficient to test the Bough "C" formation, and will attempt completion if commercial production is indicated.

BEFORE EXAMINER NO.  
OIL CONSERVATION COMM.  
EXHIBIT NO. 1  
CASE NO. 4121

THE COMMISSION MUST BE NOTIFIED  
24 HOURS PRIOR TO RUNNING  
CASING.

APPROVAL VALID  
FOR 90 DAYS UNLESS  
DRILLING COMMENCED,  
EXPIRES 7-17-69

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Eugene McElvaney, Jr. Title \_\_\_\_\_ Date April 15, 1969.

(This space for State Use)

APPROVED BY [Signature] TITLE SUPERVISOR DISTRICT 4 DATE APR 17 1969

CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-128  
Effective 1-1-65

All distances must be from the outer boundary of the well.

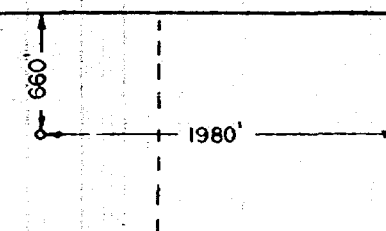
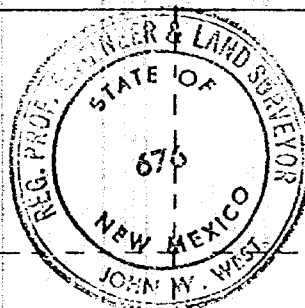
Operator <b>EUGENE MCELVANEY, JR.</b>		Lease <b>BRIDWELL</b>		Well No. <b>1</b>
Unit Letter <b>B</b>	Section <b>1</b>	Township <b>9 SOUTH</b>	Range <b>32 EAST</b>	County <b>LEA</b>
Actual Footage Location of Well: <b>660</b> feet from the <b>NORTH</b> line and <b>1980</b> feet from the <b>EAST</b> line				
Ground Level Elev. <b>4406</b>	Producing Formation <b>BOUGH "C"</b>	Pool <b>BAR - U</b>	Dedicated Acreage: <b>80.19</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

<p>BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION <i>Opponents</i> EXHIBIT NO. <u>2</u> CASE NO. <u>4121</u></p>		 
--	--	---

CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

*John W. West*  
Name  
AGENT

Position  
**EUGENE MCELVANEY, JR.**

Company  
**APRIL 15, 1969**

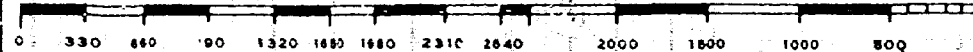
Date

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**APRIL 15, 1969**

Registered Professional Engineer and/or Land Surveyor

*John W. West*  
Certificate No. **675**





FARMOUT AGREEMENT

April 19, 1969

Mr. Eugene McElvaney, Jr.  
Petroleum Building  
Roswell, New Mexico 68201

Dear Mr. McElvaney:

In consideration of the benefits to accrue to the parties hereto and the covenants and obligations to be kept by you, it is hereby mutually agreed as follows:

I. We represent, without Warranty of Title of any kind or character, that we hold an Oil and Gas lease on minerals described as follows:

The North Half of the Northeast One-Fourth (N/2 of NE/4) and the South Half of the Northwest One-Fourth (S/2 of NW/4) of Section 1, Township 9 South, Range 32 East, Lea County, New Mexico.

We agree to deliver to you copies of such title papers as we have in our files at this time, and at your sole risk and expense you agree to conduct such title examination and secure such Curative Matter as is necessary to satisfy yourself that the title is acceptable to you.

II. (A) TEST WELL: On or before the 1st day of June, 1969, you agree to commence or cause to be commenced the actual drilling of a well for oil and/or gas at the following location:

At a location of your choice which is acceptable to the New Mexico Conservation Commission either in N/2 NE/4 or S/2 NW/4 Section 1, Township 9 South, Range 32 East,

and you further agree to drill said test well with due diligence in a workmanlike manner to a depth sufficient to thoroughly test the following:

The Bough "C" Pennsylvanian Formation which is found at approximately 9400 feet.

(B) COMPLETION OR ABANDONMENT: When the Test Well has reached its total depth, you agree:

- (1) That if the well can be completed as a producer of oil and/or gas to diligently prosecute the completion of said well without unreasonable delays; or
- (2) If you determine to abandon the well, you will promptly furnish us with an appropriate electrical log acceptable to us, and you further agree that you will not abandon the well as a dry hole until you have furnished us said electrical log and thereafter given us at least 48 hours notice of your intention to abandon, unless we consent to an earlier abandonment thereof. After consent has been given, you agree to promptly plug and abandon the Test Well in accordance with all the requirements of any governmental body having jurisdiction.
- (3) You agree to complete this Test Well as a commercial oil and/or gas well or plug and abandon, as the case may be, no later than 60 days from commencement date of Test Well.

BEFORE EXAMINER NOTICE
OIL CONSERVATION COMMISSION
EXHIBIT NO. <u>3</u>
CASE NO. <u>4121</u>

Continued/ .....

III. The only consequence of your failure to drill the proposed Test Well hereinabove provided for shall be the ipso facto cancellation of this Agreement in its entirety.

IV. COMMITMENT:

Upon written request, we agree:

To furnish you with an assignment to the following tracts, or with an assignment of operating rights to the following tracts, with these provisions and reservations:

TRACT "A" South half of the Northwest One Fourth (S/2 NW/4)  
with a reservation of one-eighth of eight-eighths (1/8 of 8/8)  
free overriding royalty interest;

TRACT "B" North half of the Northeast one-fourth (N/2 NE/4)  
with a reservation of one-eighth of eight-eighths (1/8 of 8/8)  
free overriding royalty interest;

both tracts being in Section 1, Township 9 South, Range 32 East, Lea County, New Mexico. There is also the provision that production must be established in paying quantities on each tract before the assignment is earned, and the assignment on each tract will be limited to a depth of not more than 100 feet below the depth drilled on such tract. A test must be commenced on the remaining tract within 90 days after completion of Test Well. The consequence of your failure to begin said second well in the allotted time will be the cancellation of the Agreement as to the remaining undeveloped tract.

V. As a further express consideration for this Agreement, and not as a covenant only, you agree to furnish to:

Bridwell Oil Company  
Attn: Mr. Ralph S. Bridwell  
P. O. Box 2038  
Abilene, Texas 79604

Bridwell Oil Company  
Attn: Paul Schoppa, Jr.  
and P. O. Drawer 1830  
Wichita Falls, Texas 76307

the following on all wells drilled:

- (1) Daily drilling report on the progress of the well which shall include drilling depth, information on all tests, including character, thickness, name of any formation penetrated, shows of oil, gas or water and detailed reports on all drill stem tests and cores.
- (2) 1 Certified copy of all forms furnished to any governmental authority.
- (3) 2 Copies of all electrical logging surveys.
- (4) 2 Certified copies of the well log upon completion.
- (5) 1 Certified copy of the plugging record, if any.
- (6) Samples of all cores and cutting, if so requested.

VI. You agree to properly drill stem test any and all formations in which shows of oil and/or gas are encountered after notifying us of the proposed test, and if we desire to be present during testing, you will delay such testing a reasonable amount of time in order to allow our representative to reach the well and witness the test, and you also agree to notify us

immediately by telephone or telegraph as to the results of any such test. You agree to run an electrical log from bottom of surface pipe to total depth and notify us in sufficient time to have a representative present during such logging. Notification shall be given to:

Mr. Ralph S. Bridwell  
P. O. Box 2038  
Abilene, Texas 79604

Telephone: A/C 915 673-6453  
Night : A/C 915 692-8560

VII. It is agreed that from and after the date of this Agreement we will pay any delay rentals which may become due on the Oil and Gas Lease, subject to this Agreement, and thereafter bill you for the amount of delay rental paid by us and reimbursement for these rentals shall be made within fifteen days after receipt of statement.

VIII. This Agreement is personal in nature and may not be assigned without our written consent. When requesting consent to make an assignment of all or a portion of this Agreement, you will advise us as to the parties to whom the assignment will be made.

IX. In the drilling of the Test Well or Wells and otherwise complying with the terms and provisions of this Agreement, you are acting independently of us and not as a partner in any capacity, mining or otherwise. We shall have no responsibility whatsoever in connection with the drilling of said well and it shall be drilled at your sole cost, risk and expense. You agree to hold us harmless from any and all debts, claims or damages incurred in connection with the performance of this Agreement.

In regard to all provisions of this Agreement, it is understood and agreed that time is of the essence.

X. If production is obtained on any tracts described in Article IV, a notice of 90 days shall be given to Bridwell Oil Company prior to the plugging of same.

If the terms and provisions of this Agreement in its entirety are acceptable to you, will you kindly indicate your approval by signing below in the space provided and return two executed copies of this Agreement to us within ten days? Failure to do so will result in the cancellation of this Agreement at our option.

Yours truly

BRIDWELL OIL COMPANY

By: Ralph S. Bridwell

THIS AGREEMENT is APPROVED  
and ACCEPTED this 24<sup>th</sup> day  
of APRIL, 1969.

Eugene McElvaney, Jr.  
Eugene McElvaney, Jr.



**PROPOSED DRILLING AND EXPENDURES  
FOR BAR-U FIELD 9,200' BOUGH "C" WELL**

**INTANGIBLES:**

<u>Item Description</u>	<u>Completed Well Cost</u>	
Surveying	\$ 150	
Build Location & Roads	2,000	
Drilling 9,200' @ \$5.50/Ft.	50,600	
Daywork - 3 days @ \$1,200	3,600	
Completion - 3 days @ \$800	2,400	
Muds and Chemicals	3,500	
Logging	3,500	
1 Drill Stem Test	1,500	
Acid - @ 2,000 Gal.	1,200	
Perforating	1,200	
Well Supervision	400	
Cement Surface - 350 sx.	800	
Cement Intermediate - 300 sx.	1,600	
Cement Production - 300 sx.	1,400	
Surface Damage	500	
Administrative Overhead	500	
Engr. & Geological Services	2,500	
Contract Labor	1,500	
Trucking	1,200	
<b>Sub-Total</b>		<b>\$ 80,050</b>

**TANGIBLES:**

Casting (Size, amount, & Price):		
11-3/4" - 310' - \$4/ft	\$ 1,240	
8-5/8" - 3,650' - \$3.67/ft	13,400	
5-1/2" - 9,200' - \$2.80/ft	25,760	
Tubing - 2-7/8" - 9,200' - \$1/ft	9,200	
Float Equipment		
Surface 11-3/4"	100	
Intermediate 8-5/8"	150	
Production 5-1/2"	100	
Scratchers & Centralizers:		
11-3/4"	50	
8-5/8"	50	
5-1/2"	300	
Wellhead Equipment:		
11-3/4" x 12" x 600; 10" - 12" x 600	750	
6" x 10" x 600; 6" x 600 Tree	1,750	
Pumping Unit - Kobe	@ 35,000	
Packers & Plugs (5 1/2 - Model R-DG)	750	
Flow Line - 400' 2-7/8" O.D.	200	
Flow Line Valves & Fittings	300	
Wellhead Valves & Fittings	200	
Storage Tanks (2-500 bbl.)	2,600	
Separator	1,200	
Walkway & Stairs	150	
Water Treating Equipment (Circulating Pump)	400	
Injection Equipment (Chemical Injector)	200	
<b>Sub-Total</b>		<b>\$ 93,850</b>

**TOTAL COMPLETED WELL COST**

**\$173,900**

**BEFORE EXAMINER NUTTER**

**OIL CONSERVATION COMMISSION**

*Opponent* **EXHIBIT NO. 4**

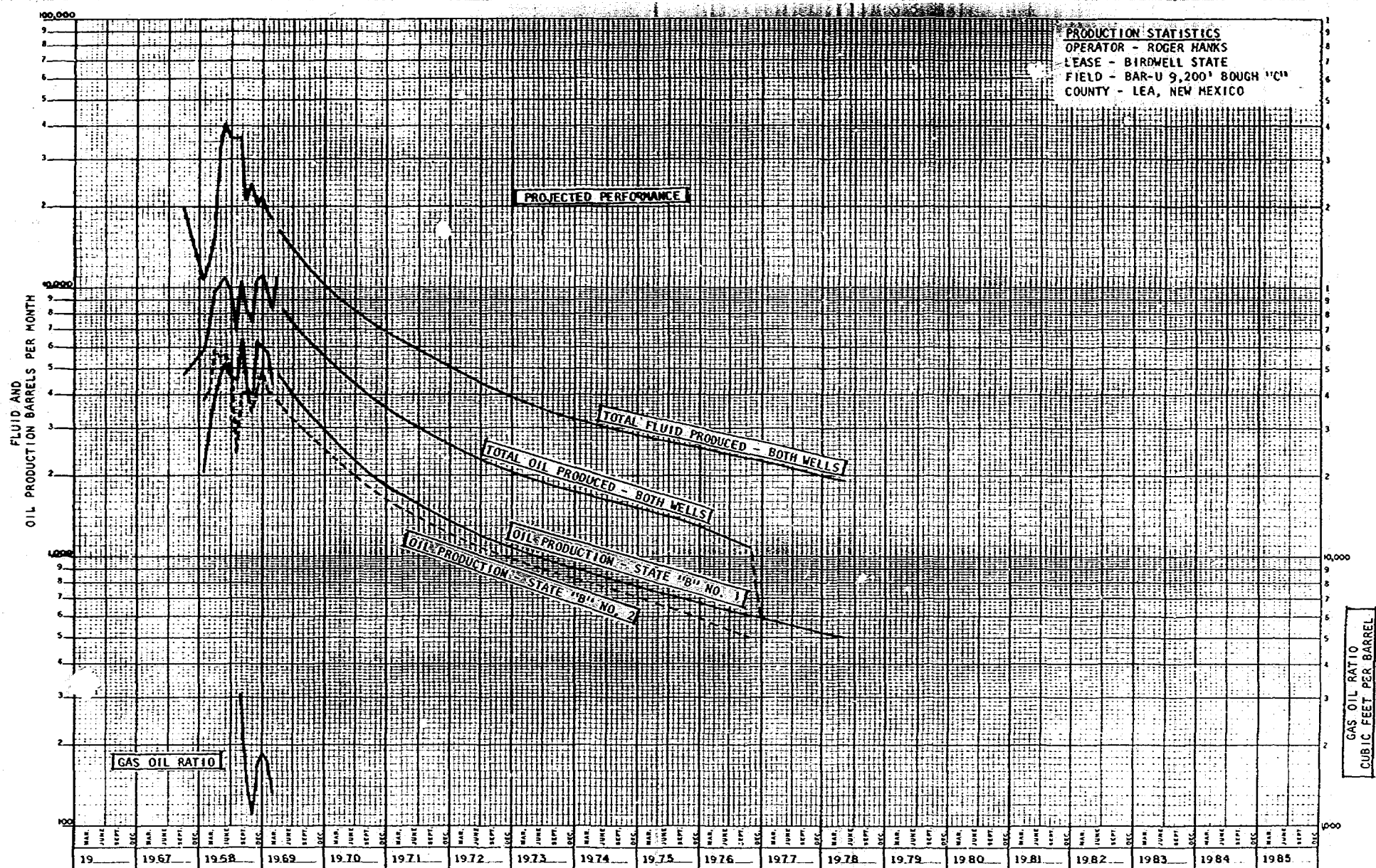
**CASE NO. 4121**

**PRODUCTION STATISTICS**  
**BAR-U FIELD 9,200' BOUGH "C"**  
**LEA COUNTY, NEW MEXICO**

Roger Hanks Bridwell State Lease  
 Well #1G Section 1 T9S-R32E

Roger Hanks Bridwell State Lease  
 Well #2C Section 1 T9S-R32E

YEAR	<u>OIL PRODUCTION BARRELS</u>	<u>WATER PRODUCTION BARRELS</u>	<u>GAS PRODUCTION MCF</u>	<u>OIL PRODUCTION BARRELS</u>	<u>WATER PRODUCTION BARRELS</u>	<u>GAS PRODUCTION MCF</u>
1967	16,389			9,800		
1968						
January	2,070	3,450		3,803	1,400	
February	2,940	4,200		4,168	1,450	
March	3,722	4,650		5,979	1,500	
April	4,680	20,800		5,579	1,400	
May	5,210	28,050		5,659	1,500	
June	4,725	25,245		5,025	1,400	
July	4,566	28,080		2,420	1,100	
August	6,441	24,300		4,014	1,500	
September	4,031	11,610		4,145	1,250	11,964
October	4,007	15,550		3,440	1,350	8,400
November	6,390	8,700	17,761	4,209	1,260	
December	6,190	9,300	20,850	4,960	1,400	
	54,972	183,935	38,611	53,401	16,510	20,364
1969						
January	5,719	8,050	17,444	4,170	1,550	
February	4,371	8,300	11,068	4,005	1,400	
	10,090	16,350	28,512	8,175	2,950	
Totals 3-1-69	81,451	200,285	67,123	71,376	19,460	20,364



**PRODUCTION STATISTICS**  
**BAR-U FIELD 9,200' BOUGH "C"**  
**LEA COUNTY, NEW MEXICO**

**Lario State B Lease Well #1 P Section 1 T9S-R32E**

YEAR	<u>OIL PRODUCTION BARRELS</u>	<u>WATER PRODUCTION BARRELS</u>	<u>GAS PRODUCTION MCF</u>
1966	17,474		
1967	11,204		
1968			
January	1,512	4,256	2,673
February	2,436	2,436	2,574
March	2,716	2,744	3,954
April	3,033	2,920	4,416
May	3,105	3,038	4,521
June	2,708	2,842	3,943
July	2,881	2,940	4,195
August	1,587	2,450	2,311
September	2,201	2,450	3,205
October	2,302	2,842	2,991
November	3,300	2,940	4,290
December	<u>2,922</u>	<u>2,548</u>	<u>3,799</u>
	30,703	34,406	42,872
1969			
January	2,497	1,333	3,265
February	3,233	1,204	4,202
March	<u>2,680</u>	<u>1,333</u>	<u>3,178</u>
	8,410	3,870	10,645
Totals 4-1-69	67,791	38,276	53,517

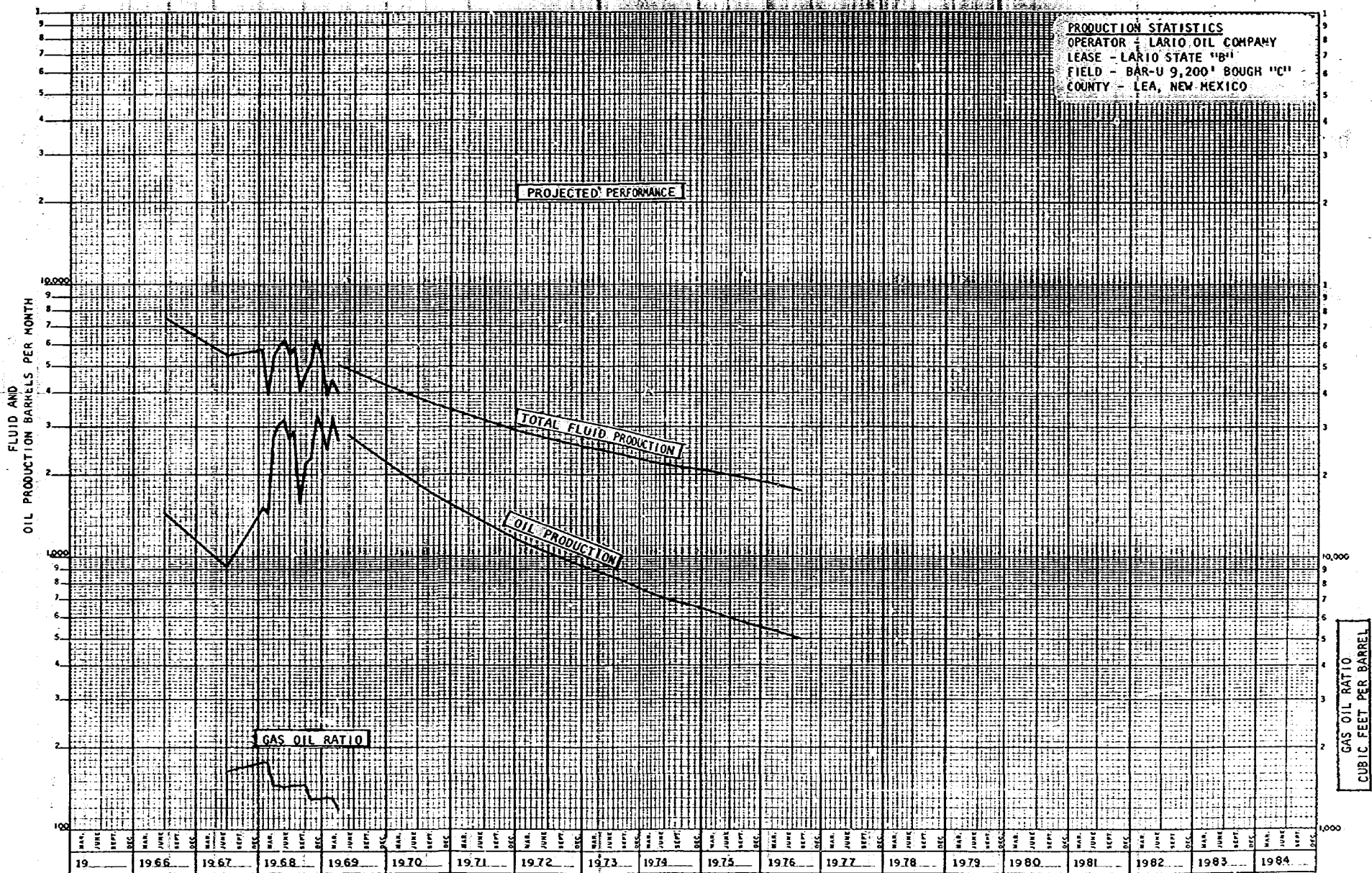
**Lario State B Lease Well #2 K Section 1 T9S-R32E**

YEAR	<u>OIL PRODUCTION BARRELS</u>	<u>WATER PRODUCTION BARRELS</u>	<u>GAS PRODUCTION MCF</u>
1966			
1967			
1968			
January			
February			
March			
April			
May			
June			
July			
August			
September			
October	2,700	24,000	5,049
November	3,974	19,920	5,090
December	<u>3,718</u>	<u>19,920</u>	<u>4,995</u>
	10,292	36,840	15,024
1969			
January	3,052	10,695	3,991
February	1,078	9,660	1,416
March	<u>3,275</u>	<u>14,818</u>	<u>4,270</u>
	7,405	35,173	9,677
Totals 4-1-69	17,697	72,013	24,701

Using  
41  
44  
55

50,000 kWh  
288  
= 52  
888 ) 50,000  
4896  
1600

52,000  
68  
120,000



TOBAC FIELD  
CUMULATIVE PRODUCTION FIGURES  
CHAVES COUNTY, NEW MEXICO

WELL NAME	LOCATION	CUMULATIVE PRODUCTION MARCH 1, 1969
Well #1 E	Section 28 T8S-R33E	202,179
Well #1 O	Section 17 T8S-R33E	168,723
Well #2 K	Section 17 T8S-R33E	204,417
Well #3 N	Section 17 T8S-R33E	239,936
Well #4 P	Section 17 T8S-R33E	179,602
Well #1 K	Section 29 T8S-R33E	3,083
Well #1 O	Section 20 T8S-R33E	318,395
Well #1 D	Section 32 T8S-R33E	10,007
Well #1 L	Section 28 T8S-R33E	153,377
Well #1 A	Section 29 T8S-R33E	234,002
Well #2 F	Section 29 T8S-R33E	212,085
Well #3 J	Section 29 T8S-R33E	197,554
Well #1 H	Section 31 T8S-R33E	18,212
Well #1 K	Section 20 T8S-R33E	235,851
Well #2 E	Section 20 T8S-R33E	184,620
Well #3 C	Section 20 T8S-R33E	218,106
Well #6 J	Section 21 T8S-R33E	81,822
Well #1 M	Section 16 T8S-R33E	171,754
Well #2 K	Section 16 T8S-R33E	39,635
Well #1 D	Section 21 T8S-R33E	204,415
Well #1 L	Section 20 T8S-R33E	214,078
Well #1 A	Section 25 T8S-R32E	140,577
Well #2 G	Section 25 T8S-R32E	56,710
Well #1 D	Section 28 T8S-R33E	276,938
Well #1 P	Section 24 T8S-R32E	47,809
Well #2 H	Section 24 T8S-R32E	2,357
Well #3 N	Section 24 T8S-R32E	6,441
Well #1 I	Section 20 T8S-R33E	239,796
Well #2 G	Section 20 T8S-R33E	261,436
Well #3 A	Section 20 T8S-R33E	222,436
Well #1 C	Section 29 T8S-R33E	254,025
Well #2 H	Section 29 T8S-R33E	212,277
Well #1 H	Section 30 T8S-R33E	237,730
Well #4 E	Section 30 T8S-R33E	32,104
Well #1 M	Section 21 T8S-R33E	190,609
Well #2 E	Section 21 T8S-R33E	209,785
Well #1 K	Section 21 T8S-R33E	118,708
Well #1 F	Section 18 T8S-R33E	20,400
Well #2 K	Section 18 T8S-R33E	12,406

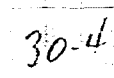
Total

6,034,397

*ave =*  
*218,000*  
*bbls/well*



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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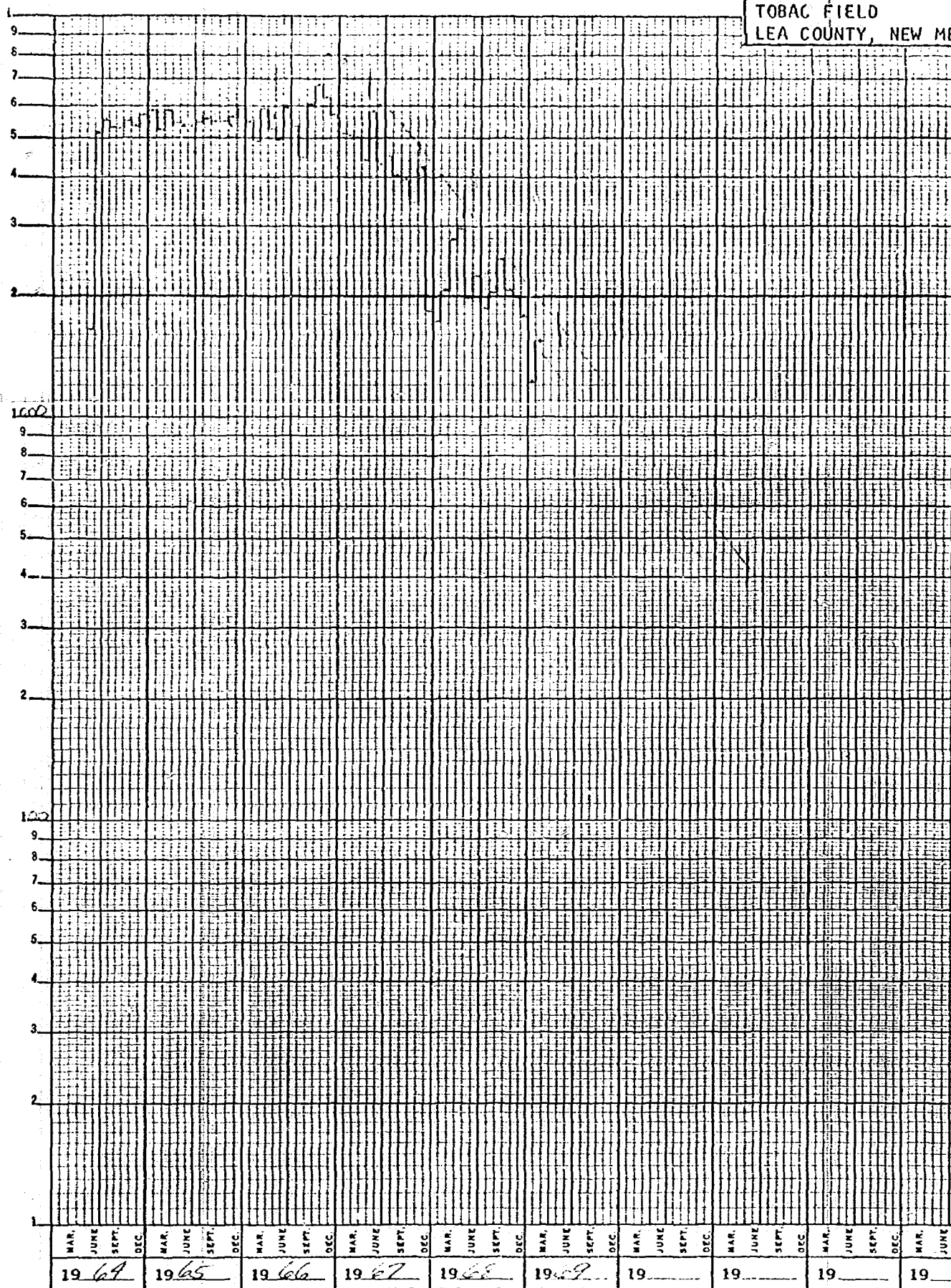
Bohm

TOBAC FIELD  
LEA COUNTY, NEW ME

The chart displays weather data for a tobacco field in Lea County, New Mexico, from 1964 to 1969. The vertical axis is logarithmic, ranging from 1 to 1000. The horizontal axis shows months (MAR, JUNE, SEPT, DEC) for each year. Data series include precipitation (P), temperature (T), and wind speed (W). The chart shows significant variability in weather conditions over the six-year period, with notable peaks in precipitation and temperature in the later years.

Year	Month	Precipitation (P)	Temperature (T)	Wind Speed (W)
1964	MAR	100	50	10
1964	JUNE	100	50	10
1964	SEPT	100	50	10
1964	DEC	100	50	10
1965	MAR	100	50	10
1965	JUNE	100	50	10
1965	SEPT	100	50	10
1965	DEC	100	50	10
1966	MAR	100	50	10
1966	JUNE	100	50	10
1966	SEPT	100	50	10
1966	DEC	100	50	10
1967	MAR	100	50	10
1967	JUNE	100	50	10
1967	SEPT	100	50	10
1967	DEC	100	50	10
1968	MAR	100	50	10
1968	JUNE	100	50	10
1968	SEPT	100	50	10
1968	DEC	100	50	10
1969	MAR	100	50	10
1969	JUNE	100	50	10
1969	SEPT	100	50	10
1969	DEC	100	50	10

SIGNAL OIL COMPANY  
STATE 29 - WELL NO. 1  
TOBAC FIELD  
LEA COUNTY, NEW MEXICO



KEUPHIL & SONS CO.

Oil/S/98



BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

APPLICATION OF ROGER C. HANKS, LTD. )  
FOR THE ADOPTION OF SPECIAL POOL )  
RULES FOR THE BAR-U PENNSYLVANIAN )  
POOL, LEA COUNTY, NEW MEXICO )

Case No. 4121

Roger C. Hanks, Ltd., 606 Wall Towers West, Midland, Texas, by its undersigned attorneys, herewith makes application for the promulgation of special pool rules for the Bar-U Pennsylvanian Pool situated in Township 9 South, Range 32 East, N.M.P.M., Lea County, New Mexico, including 160 acre spacing units and 80 acre allowables for said units, and states:

1. Applicant is the owner of three producing wells designated and located as follows: Roger C. Hanks No. 1 Bridwell State in the SW $\frac{1}{4}$ NE $\frac{1}{4}$  Section 1; Roger C. Hanks No. 2 Bridwell State in the NE $\frac{1}{4}$ NW $\frac{1}{4}$  Section 1; and Roger C. Hanks No. 1 Sinclair State in the NW $\frac{1}{4}$ NW $\frac{1}{4}$  Section 12, All in Township 9 South, Range 32 East, N.M.P.M. Other producing wells located in the Bar-U Pennsylvanian Pool are Lario Oil and Gas State "B" No. 1 in the SE $\frac{1}{4}$ SE $\frac{1}{4}$  Section 1, and Lario Oil and Gas State "B" No. 2 in the NE $\frac{1}{4}$ SW $\frac{1}{4}$  Section 1, Township 9 South, Range 32 East, N.M.P.M. Said wells are producing from the Bough "C" section of the Pennsylvanian formation.

2. Said wells will effectively and efficiently drain 160 acres. The establishment of 160 acre spacing units will prevent economic loss caused by the drilling of unnecessary wells and will otherwise prevent waste and protect correlative rights and will be in the interest of conservation.

DOCKET MAILED

Date 5-22-69  
for 6-4-68

DOCKET MAILED

Date 5-9-69

3. Applicant seeks an order promulgating special pool rules which will provide for 160 acre spacing units consisting of the governmental quarter section upon which each well is located. Due to the large water production from the wells applicant seeks the establishment of only 80 acre allowables for each 160 acre spacing unit.

4. Applicant requests that this matter be heard before an examiner as promptly as possible.

HINKLE, BONDURANT & CHRISTY

By Paul W. Eaton Jr.  
P. O. Box 10  
Roswell, New Mexico  
Attorneys for Roger C. Hanks, Ltd.

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

RECORDS CENTER

CASE No. 4121

Order No. R-3791

APPLICATION OF ROGER C. HANKS  
FOR SPECIAL POOL RULES, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on June 4, 1969,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this June day of June, 1969, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

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

(2) That the applicant, Roger C. Hanks, seeks the promulga-  
tion of special rules and regulations for the Bar U-Pennsylvanian  
Pool, Lea County, New Mexico, including a provision for 160-acre  
spacing and proration units and the assignment of 80-acre allow-  
ables.

(4) ~~(3)~~ That in order to prevent the economic loss caused by  
the drilling of unnecessary wells, to avoid the augmentation of  
risk arising from the drilling of an excessive number of wells,  
to prevent reduced recovery which might result from the drilling  
of too few wells, and to otherwise prevent waste and protect  
correlative rights, ~~temporary~~ special rules and regulations

(3) That the applicant has established that one well in the Bar U - Pennsylvanian Pool  
can efficiently and economically drain and develop ~~about~~ 160 acres.

providing for 160-acre spacing units and the assignment of 80-acre proportional factor of 4.77 should be promulgated for the Bar U-Pennsylvanian Pool.

(3) ~~47~~ That the ~~temporary~~ special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and protect correlative rights.

(5) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(6) That this case should be reopened at an examiner hearing in \_\_\_\_\_, 1970, at which time the operators in the subject pool should be prepared to appear and show cause why the Bar U-Pennsylvanian Pool should not be developed on less than 160-acre spacing units and to show cause why the 80-acre proportional factor of \_\_\_\_\_ assigned to the subject pool should or should not be retained.

IT IS THEREFORE ORDERED:

That ~~temporary~~ Special Rules and Regulations for the Bar U-Pennsylvanian Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE  
BAR U-PENNSYLVANIAN POOL

RULE 1. Each well completed or recompleted in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof, and not nearer to or within the limits of another designated Pennsylvanian oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. Each well shall be located on a standard unit containing 160 acres, more or less, substantially in the form of a square, which is a quarter section being a legal subdivision of the United States Public Land Surveys.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit consisting of less than 160 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting the proposed non-standard unit shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all offset operators or if no offset operator has entered an objection to the formation of the non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. *Each well shall be located within 150 feet of the center of a governmental quarter-quarter section or less.*

RULE 5. The Secretary-Director may grant an exception to the requirements of Rule 4 without notice and hearing when an application has been filed for an unorthodox location necessitated by topographical conditions or the recompletion of a well previously drilled to another horizon. All operators offsetting the proposed location shall be notified of the application by registered or certified mail, and the application shall state that such notice has been furnished. The Secretary-Director may approve the application upon receipt of written waivers from all operators offsetting the proposed location or if no objection to the unorthodox location has been entered within 20 days after the Secretary-Director has received the application.

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before August 1, 1969.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Bar U-Pennsylvanian Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well

presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof shall receive no more than one-fourth of a standard allowable for the pool.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

(2) That, pursuant to Paragraph B. of Section 65-3-14.5 NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Bar II-Pennsylvanian Pool shall now be dedicated thereto 160 acres in accordance with the foregoing ~~special~~ pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard ~~with~~ spacing or production units established by the Commission and dedicated thereto.

Failure to show evidence of the <sup>execution</sup> ~~accomplishment~~ of the one or the other of the aforesaid alternatives by the filing of new Forms C-102 with the Commission within 60 days from the date of this order shall subject the wells to cancellation of allowables. Until said Form C-102 has been filed, and subject to said 60-day limitation, each well presently completed drilling to or completed in the Bar II-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof shall receive a 40-acre allowable.



RULE 6. A standard proration unit (158 through 162 acres) shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before August 1, 1969.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Bar U-Pennsylvanian Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well

-5-  
CASE No. 4121

presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof shall receive no more than one-fourth of a standard allowable for the pool.

(3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before August 1, 1969.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Bar U-Pennsylvanian Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to show evidence of the execution of one or the other of the aforesaid alternatives by the filing of new Form C-102 with the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed, and subject to said 60-day limitation, each well presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof shall receive a 40-acre allowable.

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before August 1, 1969.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the Bar U-Pennsylvanian Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

*File new Forms C-102 with the Commission.*

Failure to show evidence of the execution of one or the other of the aforesaid alternatives by the filing of new Form

~~Form C-102~~  
~~C-102 with the Commission within 60 days from the date of this~~  
~~order shall subject the well to cancellation of allowable. Until~~  
~~said Form C-102 has been filed, and subject to said 60-day limita-~~  
~~tion, each well presently drilling to or completed in the Bar U-~~  
~~Pennsylvanian Pool or in the Pennsylvanian formation within one~~

~~mile thereof shall receive a 40-acre allowable.~~

*no more than one-fourth of a standard allowable for the pool.*

*unit approved by the Commission within 60 days from the date of this order*

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before Aug. 1, 1969.

(2) That each well presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof shall receive a 40-acre allowable until a Form C-102 dedicating 160 acres to the well has been filed with the Commission, or until a non-standard unit containing less than 160 acres has been approved.

(3) That this case shall be reopened at an examiner hearing in \_\_\_\_\_, 1970, at which time the operators in the subject pool may appear and show cause why the Bar U-Pennsylvanian Pool should not be developed on less than 160-acre spacing units and to show cause why the 80-acre proportional factor of \_\_\_\_\_ assigned to the subject pool should or should not be retained.

(3)(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned an 80-acre proportional factor of 4.77 for allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

The allowable assigned to a non-standard proration unit shall bear the same ratio to a standard allowable as the acreage in such non-standard unit bears to 160 acres.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before Aug. 1, 1969.

(2) That each well presently drilling to or completed in the Bar U-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof shall receive a 40-acre allowable until a Form C-102 dedicating 160 acres to the well has been filed with the Commission, or until a non-standard unit containing less than 160 acres has been approved.

(3) That this case shall be reopened at an examiner hearing in \_\_\_\_\_, 1970, at which time the operators in the subject pool may appear and show cause why the Bar U-Pennsylvanian Pool should not be developed on less than 160-acre spacing units and to show cause why the 80-acre proportional factor of \_\_\_\_\_ assigned to the subject pool should or should not be retained.

(3)(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

BARNDOLLE COMPENSATED  
STEEL JOE GAMMA RAY

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