

BEFORE THE  
OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO

PROCEEDINGS

The following matter came on for consideration before a joint hearing of the Oil Conservation Commission of the State of New Mexico, pursuant to legal notice, at Santa Fe, New Mexico, on November 22, 1949, at 10:00 A. M.

NOTICE FOR PUBLICATION  
STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

The State of New Mexico by its Oil Conservation Commission hereby gives public notice pursuant to law of a public hearing to be held November 22, 1949, beginning at 10:00 o'clock A.M. of that day in the City of Santa Fe, New Mexico, in the Hall of Representatives.

STATE OF NEW MEXICO TO:

All named parties in the following cases,  
and notice to the public:

Case 200

In the matter of the Application of Worth Drilling Company, Inc. for an order approving an unorthodox location for A. C. Taylor well No. 7-A, 10 ft. from the south line and 1320 ft. east of the west line (SW/4) of Section 12 in Township 18 south, Range 31 east, N.M.P.M., in North Shugart pool, Eddy County, New Mexico.

Case 201

In the matter of the Application of Danciger Oil and Refining Company for an order granting permission to drill twelve unorthodox ("five spot") locations on its Turner "A" and Turner "B" leases in Sections 17, 18, 19 and 20, in Township 17 south, Range 31 east, N.M.P.M., in the Premier pool, Eddy County, New Mexico.

Case 202

In the matter of the Application of Rowan Oil Company for an order reducing the daily allowable of the Brunson pool, Lea County, New Mexico, to 90 barrels per day per well for a period of six months, within which period time through surveys and studies information may be had for the purpose of determining the maximum efficient rate of production of reservoir.

Case 203

In the matter of the Application of Santa Fe Pacific Railroad

Company and Oil Development Company of Texas, for an order allowing an exception from Commission Order No. 779, of July 27, 1948, providing an 80 acre spacing pattern for wells in the Crossroads pool, Lea County, New Mexico.

Case 204

In the matter of the Application of Amerada Petroleum Corporation for an order establishing proration units and uniform spacing of wells for the common source of supply discovered in the W. W. Hamilton #1 well, NE SW Section 35, Township 16 south, Range 38 east, N.M.P.M., Knowles pool, Lea County, New Mexico.

Given under the seal of the Oil Conservation Commission of New Mexico, at Santa Fe, New Mexico, on November 7, 1949.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

/s/ R. R. Spurrier  
R. R. SPURRIER, SECRETARY

SEAL

BEFORE:

Honorable Guy Shepard, Chairman  
George Graham, Attorney  
R. R. Spurrier, Secretary

REGISTER:

C. D. Borland  
Hobbs, New Mexico  
For Gulf Oil Corporation

J. H. Crocker  
Tulsa, Oklahoma  
For Mid Continent Petroleum Corporation

J. A. Seth  
Santa Fe, New Mexico  
For Amerada Petroleum Corporation

C. V. Millikan  
Tulsa, Oklahoma  
For Amerada Petroleum Corporation

J. A. Veeder  
Midland, Texas  
For Amerada Petroleum Corporation

R. S. Christie  
Ft. Worth, Exas  
For Amerada Petroleum Corporation

William C. Schauer  
Roswell, New Mexico  
For Worth Drilling Company

Roy O. Yarbrough  
Hobbs, New Mexico  
For the New Mexico Oil Conservation Commission

Jack M. Campbell  
Roswell, New Mexico  
For Texas Pacific Coal & Oil Company

Elvis A. Utz  
Santa Fe, New Mexico  
For the New Mexico Oil Conservation Commission

E. E. Kinney  
Artesia, New Mexico  
For the New Mexico Bureau of Mines

L. O. Storm  
Hobbs, New Mexico  
For Shell Oil Company

Glenn Staley  
Hobbs, New Mexico  
For Lea County Operators

Robert F. Herron  
Amarillo, Texas  
For Oil Development Company of Texas

E. A. Paschal  
Amarillo, Texas  
For Oil Development Company of Texas

E. C. Iden  
Albuquerque, New Mexico  
For Oil Development Co. of Texas  
Santa Fe Pacific Railway Company

E. O. Hemenway  
Albuquerque, New Mexico  
For Santa Fe Pacific Railway Company

Harold Kersey  
Artesia, New Mexico  
For Danciger Oil & Refining Company

John E. Cochran, Jr.  
Artesia, New Mexico  
Danciger Oil & Refining Company

Ed McKellar, Jr.  
Dallas, Texas  
Magnolia Petroleum Company

E. P. Keeler  
Dallas, Texas,  
Magnolia Petroleum Corporation

O. E. Van Meter  
Midland, Texas  
Magnolia Petroleum Company

Roy T. Durst  
Ft. Worth, Texas  
For Rowan Oil Company

Hamilton Rogers  
Ft. Worth, Texas  
For Rowan Oil Company

G. H. Gray  
Midland, Texas  
For Sinclair Oil & Gas Company

CHAIRMAN SHEPARD: Will the meeting please come to order.

(Mr. Graham read Notice of Publication.)

CHAIRMAN SHEPARD: The order of the cases has been changed slightly by the Commission--Case No. 202 will be heard first; Case 200 will be second; 201, third; 203, fourth; 204, fifth.

(Mr. Graham read Notice of Publication for Case 200.)

MR. ROGERS: I am Hamilton Rogers, representative of the Rowan Oil Company, applicant in this case. I have present one witness, Roy T. Durst.

(Witness sworn.)

MR. ROGERS: Mr. Chairman and Members of the Commission, I am here as representative of Rowan Oil Company. The application filed relates to the oil allowable in Brunson pool in Lea County. The applicant for itself as an independent party and in behalf of other operators similarly situated requests that the Commission enter an order reducing the allowable of the field on a temporary basis in order that information might be obtained with reference to reservoir energy in an effort to bring about corrective conditions for the pool. This application is made in the interest of conservation of natural resources of the State of New Mexico, and it is hoped that through this study, it will be detailed later, conditions can be brought about to insure the maximum recovery of oil from this pool. The subject matter of this hearing has been studied by the operators in the pool, their staffs, and by the engineering sub-committee of the Brunson Committee. Representatives of the operators met in the proration office in Hobbs in September to consider the report of the engineering sub-committee that had been made with reference to

the pool. The majority of the representatives present deemed it advisable that an allowable for the pool be reduced. This reduction in allowable was thought advisable because of the rapid decline in bottom hole pressures and the increasing irregular water encroachment. A second hearing was held in October, and at that hearing the majority of the operators present recommended that the application be filed before this Commission for the purpose of having the allowable for the pool reduced to 90 barrels of oil per day on a temporary basis for six months, and during that time study the pool. I have here the Supplemental Report of Brunson Pool Operators, dated June 30, 1949. I offer it as Exhibit A in this hearing.

CHAIRMAN SHEPARD: It will be received.

MR. ROGERS: And also a supplemental report with reference to Brunson Pool, Bottom Hole Pressures, Exhibit B.

CHAIRMAN SHEPARD: It will be received.

MR. ROGERS: Mr. Chairman, Mr. Durst is a graduate engineer. He has testified before regulatory bodies a number of times, will you accept his qualifications as a witness?

CHAIRMAN SHEPARD: Yes, they will be accepted.

MR. ROGERS: Mr. Durst, will you give in narrative form an analysis of the reports and data contained in the report of the Brunson Pool Operators.

MR. DURST: Generally, Exhibit A reflects that the original bottom hole pressure of Brunson Pool was 2945 pounds per square inch during September of 1945 after the first well had been completed. From that time to June 1, 1949, the number of wells drilled, total number of wells in June 1, 1949, was 74. Bottom hole pressures were taken in the intervening time from September until June, 1949, and these bottom hole pressure

figures reflect cumulative pressure drop was 924 pounds while a total of 5,640,253 barrels of oil were produced. A substantial amount of water has also been produced, although those figures are not readily available. The cumulative decrease reflects 6,104 barrels of oil have been produced for each pound dropped in bottom hole pressure during the first six months of 1949, while 1,520,922 barrels of oil were being produced. Pressure drop for the period was 267 pounds, approximately 29 per cent of the total drop since the field was first discovered. For comparative purposes with other Ellenburger pools, we introduce the following data from the TXL Ellenberger, Exeter County, Texas. The TXL Ellenberger is substantially larger in area than is the Brunson. However, the well spacing is identical, geological point of the formation of the TXL is the same age. TXL Ellenberger had an original bottom hole pressure, facts taken under December 1945, at which time the pressure was 4,071 pounds. From that time until September 30, 1949, a total sum of 150 wells had been completed. At latter date the average bottom hole pressure for this reservoir was 3,640 pounds per square inch. From December 1945 until September 1949, a total of 25,086,891 barrels of oil had been produced, which reflects average production of 58,247 barrels of oil have been produced for each pound dropped in bottom hole pressure as compared to the previously quoted 6,104 barrels for the Brunson pool. The production drop can readily be seen. TXL Ellenberger's drop has been some nine and a half times as great as that of the Brunson field. As Mr. Rogers mentioned, decline in bottom hole pressure in the Brunson Pool has been discussed by all operators, and it is the consensus of opinion that daily allowable for Brunson pool should be reduced to 90 barrels for a six months' test period only in order to perform many tests at reduced rates.

These could be observed in an effort to determine rates of production for the ultimate recovery of maximum amount of oil from the Brunson pool. Specific procedure to be followed and tests under reduced withdrawal rates are as follows: (1) A general bottom hole pressure survey will be taken of all wells in the Brunson field in the manner prescribed by the Oil Conservation Commission and immediately prior to the effective date of reduced allowable. (2) A limited number of key wells to be designated by the sub-committee of Brunson Pool Operators Committee, will have gas-oil ratio tests taken immediately prior to the bottom hole pressure survey outlined above. In addition, gas-oil ratio tests and bottom hole pressure tests as prescribed by the Commission will be taken on the designated key wells only at 60-day intervals until a total of six months has elapsed. (3) During the six month period, the top per well allowable for the Brunson field will be fixed at 90 barrels of oil per day. Wells producing gas in excess of the limiting gas-oil ratio of 2000 cubic feet per barrel will be penalized downward from 90 barrels per day. (4) Immediately prior to the termination of the six month test period, a general bottom hole pressure survey will again be taken of all wells in the Brunson field in the manner prescribed by the Oil Conservation Commission. (5) At the end of test period the top per well allowable for the Brunson Field will revert to the normal as presently prescribed by the Oil Conservation Commission. The results of all bottom hole pressure and gas-oil ratio tests enumerated above will be made available to all operators in the field for review and study. Further recommendations to the Commission will be made subsequent to the accumulation of this data, if recommendations are in order.

MR. ROGERS: In Exhibit A, Mr. Durst, the pressure production data shown for June 1, 1949, reflects pressure for period of 267 pounds, did you have supplemental information, Exhibit B?

MR. DURST: Yes, Exhibit B reflects from June 1, 1949, until early in November 1949, the field is experiencing an additional pressure drop of 132 pounds insofar as 56 comparable wells were concerned. An additional survey included a total of 64 wells, and results of these bottom hole pressure tests indicate in 64 wells the pressure drop has been 68.4 pounds since June 1, 1949. Incidentally, these figures are incomplete, not all the wells have been run that appear in the figures for June 1, 1949.

MR. ROGERS: Attached to Exhibit A, Mr. Durst, is a Water Map, what does that indicate with reference to irregular water encroachment in the pool?

MR. DURST: The Water Map shows those wells as of July 1, 1949, in the Brunson pool that were producing water. It is rather difficult to make an interpretation from this map although it is clear that the encroachment of water is extremely irregular. This could be due to several different things, possibly the details of which would bear quite a bit of study.

MR. ROGERS: If the Commission should grant the order requested, Mr. Durst, do you think in your opinion, would you say that the data compiled from the reservoir under the outlined procedure would afford the operators in the pool an opportunity to offer corrective steps to prevent any underground waste if such were reflected from that study?

MR. DURST: Yes, the results of a six months test under reduced rates of production should tend to furnish additional information to the operators and to the Oil Conservation Commission whereby its best judgement can be utilized in obtaining the maximum

output of recoverable oil from the reservoir.

MR. ROGERS: Mr. Chairman, that is all I have. I would like to say, however, that this application is filed as a result of recommendations of the operators' committee. We appear as the applicant for ourselves as an independent party and in behalf of others similarly situated, and we think, in the public interest in the conservation of reservoirs. Perhaps this is in the nature of an experiment, I don't of personal knowledge know that there is a precedent. It is not in self interest alone, not self-served. I think the operators in this pool are anxious to set up a system of production which will insure the maximum recovery of oil from the pool. We, therefore, request that the Commission enter an order which will grant the applicant the relief requested.

CHAIRMAN SHEPARD: Does anybody have anything further?

MR. KEELER: E. P. Keeler, Magnolia Petroleum Company. Magnolia is in full agreement with the applicant's request for reduction in allowable in the Brunson Pool to 90 barrels per day, however, there is one item in the application that we do not fully agree with, and that is item No. 5 which reads as follows: "At the end of the test period, the top per well allowable for the Brunson field will revert to the normal as presently prescribed by the Oil Conservation Commission." We feel that that rather automatically reverts to present allowable, that a study should be made of the data accumulated as a result of the tests recommended in this application, and that allowable to be adopted after the expiration of the temporary period should be based on the results obtained from these surveys. Just how that could be accomplished I don't know. It could be that possibly the 90 barrels allowable continue for seven

months and have a hearing during the seventh month at which time results of all these tests be presented and recommendations made for the future, or if possible if the time would permit, the hearing could be held at the end of six months. I don't know if that would be sufficient time to enable a thorough study of the survey taken at the end and the records checked and the results of the reduction in allowable as reflected by bottom hole pressure and gas-oil ratio survey. This should be the basis for further ratios adopted rather than automatically reverting to present allowable. One other suggestion, in our opinion there is rather a serious situation down there. If the Commission sees fit to issue an order reducing the allowable to 90 barrels per day, we suggest it be made effective December 1.

CHAIRMAN SHEPARD: Anyone else? Mr. Staley, do you have anything to say?

MR. STALEY: No, sir.

MR. ROGERS: One other thing in response to what the representative from Magnolia has said. I have here a telegram from Mr. House. It is in line with the general recommendations. I offer it in the case since it was sent to Mr. Rowan and does reflect substantially the same thing this gentleman has said. It reads as follows: "In re production rate Brunson pool, Lea County, New Mexico. Humble recommends 75 barrel top allowable instead of 90 for the 6 month test period, and at the end of the 6 month test period, the test data be reviewed, and the top allowable be determined from these data rather than reverting back to the 122 barrel top allowable, Humble Oil and Refining Company by J. W. House." I would like to offer this telegram in evidence as Exhibit C.

CHAIRMAN SHEPARD: It will be received.

MR. ROGERS: Our position in application for reversion back to top allowable is occasioned by agreement of operators present at the hearings mentioned, and we appear here as applicant to carry out wishes of that committee.

MR. BORLAND: C. D. Borland, Gulf Oil Corporation. At meetings held in Hobbs, we were the only Company that opposed six months period. At the end we did go along if at the end of that period the allowable reverts back to what would be normal. We still feel that way about it. We are opposed to any change in allowable except after a second hearing.

CHAIRMAN SHEPARD: Anybody else?

MR. GRAY: G. H. Gray, Sinclair Oil & Gas Company. We are in general agreement with this procedure. We don't object to this method.

MR. CHRISTIE: R. S. Christie, Amerada. We also concur with applicants request. We would leave it up to the Commission to decide whether the allowable is to revert to 122 barrels at end of six months' period. If it seems proper to change it after a hearing or reverts back, we go along in either case.

CHAIRMAN SHEPARD: Anybody else?

MR. STORM: L. O. Storm, Shell Oil Company. We are in agreement with the application. It was our wish that allowable revert back to normal top allowable at the end of six months.

CHAIRMAN SHEPARD: Anyone else?

MR. SPURRIER: Mr. Durst, this is a general question, if you have an answer all right if you don't, it doesn't matter.

This pool is thought to be an absolutely water drive pool?

MR. DURST: I am not too well prepared to answer that specific question. From information available to me personally, it is my opinion that it is a water drive in view of the water pro-

duction that is being experienced by a number of wells in the field.

MR. SPURRIER: Are the permeability and porosity greatly different from that of TXL?

MR. DURST: Again I do not have the exact figures to quote to you. As I understand, some of the major companies represented here do have detailed analyses on cores taken from the Brunson and from the TXL Elleburger, and possibly comparative information is available present here this morning. But from the production data from the bottom hole pressure information, it is apparent to me that there is a vast difference in relative permeability in the two sources in question.

MR. SPURRIER: It would be your guess that the permeability is considerably less than that of the TXL?

MR. DURST: Substantially less, yes, sir.

MR. SPURRIER: Do any engineers have the information which I asked and he did not have?

MR. KEELER: Magnolia Petroleum Corporation has core information on one well in the field in Brunson Field. We have no production in the TXL and are not familiar with that, but Mr. Van Meter with Magnolia has this information.

MR. VAN METER: This core analysis was taken from Magnolia's E. O. Carson No. 17 in Ellenburger formation, Brunson Field. In this core we obtained at 15 feet of limestone core which was analysed by special analysis presently made by a commercial laboratory. The average porosity was 7.2 per cent; a permeability of 10.8.

MR. SPURRIER: I would like to have the representative from Gulf to tell us what specifically Gulf objects to--the procedure of testing or cutting allowable?

MR. BORLAND: Gulf's objections are not in agreement with the test. We would go along provided at end of six months the allowable would revert back to what would be called normal.

MR. SPURRIER: Would you advise us as to what Gulf's procedure would be?

MR. BORLAND: After obtaining information and a second hearing is called, we may object at that time to any change in allowable.

MR. SPURRIER: Your mind is made up at this time even before the tests is made?

MR. BORLAND: Yes.

MR. SPURRIER: This may or may not relieve the situation. The question in this case is ascertaining the maximum efficiency rate. I don't know whether this has appeared in the record before this. Has any one any comments to make on maximum efficiency rate?

MR. ROGERS: Mr. Spurrier, one comment, we have enough trouble in Texas with this, and we don't want it to get over here in New Mexico. I think what the operators in this pool are interested in, not only self interest, from the point of conservation of natural resources and recovering the greatest amount of oil. Now how that information and how procedures worked may be emeshed with what is referred to as M.E.R. we don't know. But we are not anxious to see this Commission get into too much of that either.

MR. SPURRIER: That is all.

CHAIRMAN SHEPARD: The case will be taken under advisement. The next case is No. 200.

(Mr. Graham read the Notice of Publication in Case 200.)

MR. SCHAUER: If it please the Commission, I am appearing for

Hervey Dow & Hinkle representing the Worth Drilling Company, Inc. My name is William C. Schauer. We have no witnesses and are prepared to submit the case on basis of the record. The matter before the Commission is in regard to the application by the Worth Drilling Company of Fort Worth, Texas, seeking approval to drill an additional well on an unorthodox "five spot" location. Notice of intention to drill was filed with the United States Geological Survey, and they made no objection to an additional well provided we obtained the consent and approval of this Commission. I would like to refer to and offer as an exhibit a letter now on file with the Commission from Foster Morrel of the United States Geological Survey to the Worth Drilling Company, dated November 4, 1949, which reads as follows: "This office offers no objection to the drilling of "five-spot" wells at unorthodox locations. However, we request in all such cases that the locations be no closer than 25 feet from any 40-acre subdivision line. Our approval of such location will be contingent upon approval by the New Mexico Oil Conservation Commission and to secure such approval it will be necessary to file a petition for a hearing the matter before the Commission. ..." I should like to offer as Exhibit 2 the plat which was filed with the original notice of intention to drill with the Commission, which shows the location of additional well to be drilled. This plat shows four wells that are being worked by the Worth Drilling Company as follows: No. 1 in the southwest quarter of the southwest quarter of Section 12. No. 2 of the southeast of quarter of Section 7. No. 3 in northeast of the northwest of Section 13. No. 4 in the northeast of Southwest quarter of Section 12 in Township 13 south, Range 31 east. The tentative proposed location of additional well is approximately

in the center of the four wells just mentioned and more particularly described as being 25 feet north of the south boundary and 1295 feet east of the west boundary of Section 12, Township 18 south, Range 31 east. The designation of this well was to be Well No. 7A. The field is the North Shugart Field located in Eddy County, New Mexico.

MR. SPURRIER: Mr. Schauer, while you are at this point, you have changed the proposed location from the application, have you not?

MR. SCHAUER: Yes, that was amended at the request, I believe, of the U. S. Geological Survey and the Oil Conservation Commission both. It is requested that the Commission take notice of facts within its knowledge and its reports to the effect that in the four wells just mentioned the production has fallen below the allowable, and in that regard reference is made to the proration order for November issued by the proration office of the Oil Conservation Commission indicating that production of the four wells fell below allowable from approximately 79 barrels to 214 barrels. It is, of course, our desire to drill this well so that we could equal that allowable, and in the event the Commission grants this request the allowable for the entire 160, that is, south half of the northwest of 12 and north half of the northwest of 13, Township 18, Section 31 east will be allocated to entire five wells.

CHAIRMAN SHEPARD: Is that all government property, are there any overriding royalties?

MR. SCHAUER: I don't have that fact within my possession.

MR. COCHRAN: May I say something, it so happens that I have knowledge as to the title of that particular lease. The ownership is uniform for entire 160 acres.

CHAIRMAN SHEPARD: I wanted to know if there were the problem

of unitizing. Does anybody have any questions?

MR. STALEY: You mentioned in Intention to Drill the fact that this well location calls for ten feet from the south line and 1320 feet east of west line. The general practice is to avoid placing of any well on legal subdivision line.

MR. SPURRIER: Mr. Staley, Mr. Schauer has amended the application so that location does not fall on the subdivision line.

CHAIRMAN SHEPARD: Anybody else, if no further objections, the order will be granted.

(Mr. Graham read the Notice of Publication in Case 201.)

MR. COCHRAN: My name is John E. Cochran, Jr. Our witness is Harold Kersey. We represent the Danciger Oil and Refining Company in its application for permission to drill twelve unorthodox "five spot" locations on what is known as Turner "A" and Turner "B" leases located in the Premier pool, Eddy County, New Mexico. Both of these leases are on Federal land, and in this connection, I have a letter from Mr. Foster Morrel of the U. S. Geological Survey which states that his office has no objection to the drilling of these wells or the proposed spacing pattern, and that further they believe that the drilling of these wells will afford opportunity to recover considerably more oil from the lease. I offer this letter in evidence as Exhibit No. 1.

CHAIRMAN SHEPARD: It will be received.

(Witness sworn.)

MR. COCHRAN: In the interest of time, I might state to the Commission that Mr. Kersey is a graduate petroleum engineer of the University of Oklahoma and is engaged in the practice of his profession as oil operator and drilling contractor. If the Commission would like Mr. Kersey to detail his qualifications--

CHAIRMAN SHEPARD: He may go ahead and testify.

DIRECT EXAMINATION BY MR. COCHRAN:

Q. Mr. Kersey, are you familiar with the Turner "A" and the Turner "B" leases?

A. I am.

Q. What has been the occasion for you to observe and to become familiar with these leases?

A. I have drilled all the wells on Turner "A" and Turner "B", except one, which totals 51 wells.

Q. How many wells are there on Turner "A"?

A. There are 22 wells on Turner "A", fourteen of those are producing from the Grayburg Lime, at approximately 3400 feet and eight from the Seven Rivers Sand at approximately 1870 feet.

Q. How many wells are there on Turner "B"?

A. There is one well from the Premier Sand at 3100 feet; ten from the Grayburg Lime at 3400 feet; and eighteen from the Seven Rivers Sand at approximately 2100 feet.

Q. Is a well being drilled at the present time?

A. At present time Turner No. 33B is being drilled.

Q. Are you drilling that well?

A. I am.

Q. Is it in the Grayburg horizon?

A. Yes, sir, in the Grayburg horizon.

Q. Mr. Kersey, what general spacing pattern is in effect?

A. The spacing pattern is one well to forty acres generally-- spaced 330 feet from the north line of 40 and 660 feet from the east and west lines, and in one instance ten acre spacing was followed.

Q. In your opinion as a petroleum engineer, do you believe one well drilled on each 40-acre legal subdivision is sufficient

to obtain all recoverable oil from that 40 acres?

A. I do not believe that one well from 40 acres will recover all the oil. This is borne out by the fact that some of the other operators in the area have been drilling "five-spot" locations, and their recovery from those locations has been very good.

Q. And it is your opinion that by drilling the "five Spot" locations it would promote a greater recovery of oil?

A. I believe we could recover considerably more oil from "five spot" locations.

Q. Mr. Kersey, is it your opinion that the drilling of these proposed "five spots" at locations shown on application and on map attached to the application would be in the interest of conservation?

A. I do. I believe that a great deal more oil would be recovered than would be otherwise.

Q. Do you know what Danciger's plan is with reference to drilling the proposed wells?

A. Their plan is to drill one well at a time in orderly manner, and as the drilling progresses test and see what results are so that future drilling can be determined from that.

Q. It may be that after part of the drilling and the results are studied that Danciger may wish to modify the drilling plan?

A. That is right. If sufficient recovery were not obtained, they would probably stop and all twelve might not be drilled if sufficient production were not obtained.

Q. Now, if permission is granted to drill these well by the Commission, what does Danciger propose to do with reference to "five spots" as to allowable?

A. It is their plan to produce only the top allowable from the 40 acre subdivisions.

Q. In no event would the two wells on 40 acres produce in

excess of allowable fixed by the Commission?

A. In no event would an excess be produced.

MR. COCHRAN: Does the Commission desire to ask any questions? That is all.

CHAIRMAN SHEPARD: Does anyone have anything further, anything to say? If not, the order will be granted.

(Recess)

CHAIRMAN SHEPARD: The meeting will come to order. Mr. Iden is talking on a long distance call. We will change the order and hear Case No. 204.

(Mr. Graham read Notice of Publication in Case 204.)

MR. SETH: If it please the Commission, this is the application for 80-acre spacing and is based on three wells Amerada drilled in the pool. The area covered by the application and which is known as the "Knowles Pool" is considerably larger, probably twice as large as the "Knowles Field" as fixed by the nomenclature committee. Mr. Veeder will testify as geologist, and Mr. Christie as engineer.

(Witnesses were sworn)

DIRECT EXAMINATION BY MR. SETH:

Q. Mr. Veeder, will you state your name.

A. I am John A. Veeder, Midland, Texas.

Q. By whom are you employed?

A. Amerada Petroleum Corporation.

Q. In what capacity?

A. Assistant District Geologist.

Q. What is your training and experience?

A. I have a B. S. degree; one year's graduate work at Northwestern. I have worked for Amerada for twelve years. I worked for six years in Oklahoma.

Q. In this case in the so-called "Knowles Field" in Lea County, New Mexico, I believe the first well discovered was drilled by Amerada?

A. That is right.

Q. Will you state to the Commission a description of this well?

A. Amerada's No. 1 is known as "W. W. Hamilton No. 1", and is located NE/4 SW/4 of Section 35, Township 16 South, Range 38 East.

Q. Will you give the depth?

A. This well was carried to a total depth of 12,656 feet in the Devonian. The top of the Devonian was called 12,451. The top of the pay was 12,457. Five and a half inch casing was set at 12,518 feet. Water was encountered at a depth of 12,628 feet. The well was then plugged back to depth of 12,600 feet. The well was treated with 2,000 gallons of acid and open hole from 12,518 to 600 was completed for IP of 935 barrels of oil in 24 hours through one half inch choke.

Q. What was the gravity of the oil?

A. The gravity was 46.9.

Q. What about the gas-oil ratio?

A. The gas-oil ratio was 180 to 1.

Q. What was the bottom hole pressure?

A. I do not have that.

MR. SETH: Do you have information on that, Mr. Christie?

MR. CHRISTIE: I have here a Schlumberger print with me with top of Devonian and pertinent production procedure on 1980' FS & W/L, Sec. 35 16S-38E.

CHAIRMAN SHEPARD: When was it completed?

MR. VEEDER: Amerada No. 1 Hamilton was completed May 4, 1949.

Q. Has it been producing since then?

A. It has.

Q. When was the next well drilled?

A. The next well would be the Amerada No. 1 Stella Rose in the SE/4 NW /4 of Section 35-16S-38E.

Q. When was that well completed?

A. That well was completed October 31, 1949.

Q. At what depth, give the same data with reference to this well as was given in connection with Hamilton well.

A. The Amerada Rose encountered top of Devonian at depth of 12,542. The top of pay was 12,557 feet; total depth 12,607. Five and a half inch casing was set at 12,596. The casing was perforated from 12,560 to 596. The open hole and perforations were acidized with 3 thousand gallons of acid. Amerada completed this well for IP flow at the rate at 532 barrels of oil in 24 hours through one half tubing choke. Gas-oil ratio: 132; gravity 47.1.

MR. SETH: I would like to offer Schlumberger Reports 1, 2, and 3 in evidence.

CHAIRMAN SHEPARD: Accepted.

Q. Will you give us the same information for the next well?

A. The third well is located, Amerada No. 1 Rose Eaves, SE/4 SW/4 of Section 35-16S-38E. This well is also Devonian producer; encountered top of Devonian at depth of 12,336 corrected by Schlumberger. The total depth of 12,575; the top of the pay was called at 12,357; 7 and 5/8 inch casing set at 12,574. Casing was perforated from 12,532 to 573. This well was acidized with 4,000 gallons and completed for IP flow of 773 barrels of oil in 24 hours flowing through 3/4 inch tubing choke. Gas-oil ratio was 148; gravity 47.9, corrected.

Q. Has Amerada started another well?

A. Amerada is now drilling a well in Section 2-17S-38E. This well is located in the Northwest Quarter of the Northeast Quarter of Section 2. It is now drilling around a depth of around 2200 feet.

Q. Is it deep enough to disclose anything?

A. It is not.

Q. Now, Mr. Veeder, have you A Schlumber log of Rose Eaves No. 1.

A. Yes.

Q. Now, in the three wells Amerada is producing, was any pay encountered between the surface and present production?

A. No commercial pay from the surface to the top of Devonian or present producing horizon.

Q. All exceeded 12,500 feet in depth?

A. That is right.

Q. Was there a show of oil in the first?

A. There was a show of oil in discovery No. 1, which we encountered in Paddock stone. They recovered 1280 feet of oil and 276 feet of sulphur water.

Q. Not a commercial showing?

A. We have not tested it by professional methods, but we do not believe it to be a commercial well.

Q. Was the same condition encountered in the other two wells?

A. Both wells to north and south were tested thoroughly-- that is, porosity in stone was not present.

Q. Are the three wells the only wells drilled within the six sections mentioned in Amerada's application?

A. That is right.

Q. Is there another well to the north?

A. There is a well approximately one and three-fourths miles northwest of Amerada's No. 1 Hamilton. That is the Texas No. 1

Bennett Estate Well in the Northeast Quarter of the Northwest Quarter of Section 27-16S-38E.

Q. In your opinion are the six sections described in Amerada's Sections 34, 35, 36, township 16 South, Sections 1, 2, 3, township 17, range 38 East probable productive limits of area of these wells?

A. To the best of my knowledge at this time, I would say that is so.

Q. This area is larger than Knowles Field as fixed by the nomenclature committee?

A. That is right.

Q. From your experience and general knowledge of wells, would you recommend including these six sections?

A. I would think so.

Q. Mr. Veeder, in your opinion based on your knowledge as a geologist and conditions that these wells disclose, would you recommend spacing be put on 80-acre spacing?

A. I would.

Q. You believe that this 80-acre spacing put in and pattern range be so alternated would result in the ultimate recovery of larger amounts of oil?

A. I believe all recoverable oil would be obtained by that method.

Q. What would you recommend as to pattern of spacing?

A. I would recommend that pattern as spotted on the map.

Q. Does the map show wells and recommendation of Amerada as to spacing?

A. It does.

Q. I notice that the spacing pattern calls for wells in the Northwest and Southwest of forites of each quarter section?

A. That is right.

Q. The only exception is the discovery Hamilton in the Northeast of the Southwest of Section 35. That forty would be the only exception in the whole set up?

A. That is right.

Q. Should that well in your opinion be considered as the pattern well for that particular 80-acre tract?

A. That is right.

Q. Mr. Veeder, along the north line of Section 1, 2, and 3, in your opinion based on your experience, training, and knowledge of this particular area, do you recommend that an order be entered fixing spacing of 80 acres.

A. I do, essentially because of type of porosity in Devonian formation we have Wuglar and good vein porosity, and we would compare this field with the Jones Ranch Field approximately 12 miles to the north which we have production history on.

Q. In what way?

A. That is just northwest and is of same type of production. The production is from the Devonian dolomite of same texture and character. The porosity is very similar.

Q. Has that been developed on 80-acre spacing?

A. Yes.

Q. Is it working out satisfactorily?

A. It is.

Q. Your idea of spacing, your recommendation is that wells be placed in center of the forty in each instance?

A. That is right.

Q. And that some allowance or tolerance be allowed where topography requires slight deviations--150 feet?

A. Yes, sir, I believe that is right. I think the topography is fairly flat.

MR. SETH: That is all.

CHAIRMAN SHEPARD:

MR. CAMPBELL: Jack M. Campbell, representative of Texas Pacific Coal & Oil Company. Mr. Veeder, I gather at the time of the discovery well's completion, you did not feel you had sufficient engineering data on which to base a request for 80-acre spacing?

MR. VEEDER: I would believe that is right.

Q. Is it your understanding that the first three wells are 40-acre offsets north and south.

A. No, we do not consider them as 40-acre offsets.

Q. The first is Northeast Quarter of Southwest Quarter; and second, Southeast of Northwest; and third, Southeast of Southwest of 35?

A. That is right.

Q. The field wasn't contemplated as 80-acre spacing, wasn't started on that basis?

A. I would rather not answer, because I do not have that knowledge. I believe the engineer can answer that.

CHAIRMAN SHEPARD: Anyone else? Go ahead.

MR. SETH: Mr. Christie has testified before this Commission before. It is not necessary to state his qualifications.

Q. What position do you hold with Amerada?

A. Petroleum engineer.

Q. You have been familiar with the Knowles Field since its inception?

A. Yes, sir, I am.

Q. The testimony of Mr. Veeder with respect to these three wells being drilled and completed is substantially correct, and their depth of pay is substantially right?

A. Yes, sir.

Q. Now the question that Mr. what's his name asked. These three wells due north and south line, what is the purpose of that to ascertain height and whether some lower or higher, is that the idea?

A. To begin with when we found pay at Paddock in the discovery well, we offset to north with intention of testing upper formation and so determine whether the 40-acre basis on upper pay. As soon as we found it not productive Paddock, we stopped that, and found discovery well Hamilton No. 1 to test Devonian. Having found production in Devonian, we continued to drill north offset to Devonian. Reason for that particular spacing, we thought it advisable to verify as to location, struck units running east and west, so drilled third south well. Discovery well is the exception rather than the standard pattern. It is true that as more wells were completed in the reservoir, more now, we found better way of spacing. We found that we preferred 80-acre spacing.

Q. And what did the third--

A. The third well further confirmed that opinion.

Q. In your opinion, will the 80 acre spacing as set out in Amerada's Exhibit 4 and the location of wells as shown thereon result in the ultimate recovery of the recoverable oil in the pool.

A. Based on the engineering information that we have, I believe that is correct. We have production index on discovery well, Hamilton No. 1, and north offset to the Hamilton, which is the Rose No. 1. The productivity index of Hamilton No. 1 is as shown to be 1.03 barrels per pound drop flowing at the rate of 40 barrels per hour, which indicates good permeability productivity. Production Index on Rose No. 1 was .444 barrels

per pound drop flowing at the rate of 20.5 barrels for 24 hours test period. While it is not as good a well from productivity standpoint as Hamilton, it is still a good well in our opinion and has fair permeability. It is lower on structure--the lowest well drilled to date. Furthermore, we believe we have a water drive in discovery well. It tested approximately 12 barrels per hour of salt water with fair permeability. We think one well will drain at least 80 acres.

Q. Have you anything on the cost of the wells?

A. The discovery well cost \$351,000.00. The estimate on second well drilled was \$268,000.00. Of course, the discovery well always cost more, due to more testing, etc. \$300,000.00 estimate to \$335,000.00 or higher because running 7 and 5/8 inch casing through Devonian. \$268,000.00 is a fair estimate--approximately \$260,000.00 to \$270,000.00.

Q. Mr. Christie, along the line of north line of Sections 1, 2, 3, township 17 South, there are a series of lots following usual public land survey?

A. Yes, sir.

Q. They run to around thirty acres?

A. Yes, sir.

Q. What recommendation as to 80 acre spacing, I notice lots included in each of 80 acres, do you recommend that these lots, although less than 80 be made a unit?

A. Yes, we recommend that in consideration of government sub-divisions.

Q. Does Amerada seek more than 40-acre allowable?

A. No. We recommend 40-acre allowable for that division, which I believe is 264 barrels per day of oil.

Q. What other companies are there besides Amerada in this

six section area?

A. Exhibit 4 shows Magnolia owns the east half of Section one; Sinclair Oil Company, the southeast quarter of Section 2; and Danglade owns the Southwest Quarter of Section 1, the south 80 of the Northwest Quarter of Section 1.

Q. No, Amerada has that.

A. That is right.

Q. Except that Amerada has all rest of leases?

A. Yes, sir.

Q. Have Magnolia and Sinclair been notified?

A. Yes, sir.

Q. Do you know what Mr. Dan Glade's attitude is?

A. I understand he is agreeable to 80 acre spacing.

Q. He has been notified?

A. Yes, sir.

Q. I notice on this Exhibit 4 there are four or five exceptions where the 80 acres run north and south instead of east and west.

A. I believe six.

Q. Was reason for that to cover ownership?

A. Yes, sir, taking care of ownership, so it wouldn't be necessary to unitize.

Q. You recommend those exceptions to straight east and west?

A. Yes.

Q. Does that make any difference in well spacing pattern?

A. No, now only difference is Hamilton No. 1.

CHAIRMAN SHEPARD: Does anybody have any further questions?

Anyone anything to say?

MR. KEELER: Magnolia has acreage within the area designated by the applicant and its probable productive limits of this source of supply, and we wish to concur with the recommendations made

by the applicant.

CHAIRMAN SHEPARD: Anyone else?

MR. SPURRIER: I don't know if the record is clear, but in answer to Mr. Campbell's question, those three wells are 40-acre offsets?

MR. CHRISTIE: Yes, sir, they are; but they fit into the spacing pattern.

MR. SPURRIER: Do you have anything on porosity on Dolomite?

MR. VEEDER: No, we drilled two and cored third, diamond cored Amerada No. 1 Rose, had about one hundred per cent recovery, and that did show very good porosity, but it was not analyzed by a commercial laboratory.

MR. SPURRIER: You don't know what per cent, you know it is, as you describe it, good.

MR. VEEDER: That is right.

CHAIRMAN SHEPARD: What about the royalty owners, will they be compensated?

MR. VEEDER: It is set up so that problem wouldn't arise except for, in the north quarter, that 40 acres is separate ownership. We think that can be handled by agreement. Otherwise, all royalties are same under each unit; that is one reason for the arrangement.

CHAIRMAN SHEPARD: That will be all on this. We will take the case under advisement.

MR. SETH: I would like to ask that if it devolves as wells are drilled they are in same common source of supply, would you recommend that area be extended to area outside sections?

MR. VEEDER: Yes.

(Mr. Graham read Notice of Publication in Case 203.)

MR. IDEN: My name is E. C. Iden, address 715 First National Bank Building, Albuquerque, New Mexico. I appear here

representing the two applicants, the Santa Fe Pacific Railroad Company and Oil Development Company of Texas. The Santa Fe is the owner of mineral rights of the tract involved, and the Oil Development Company of Texas is lessee under an oil and gas lease. Everybody is familiar with what we are asking for. We are asking for an order allowing an exception from Commission's Order No. 779, of July 27, 1948, providing for 80-acre spacing pattern for wells in the Crossroads Pool, Lea County, New Mexico, and involves more specifically the Northwest Quarter of Section 27. The Oil Development Company of Texas has drilled a well in Southwest Quarter of Northwest Quarter of Section 27, shown on attached map, if any Commissioners care to refer to that, that resulted in a dry hole. The application is now before this Commission that that Company be permitted to drill a second well in Southeast Quarter of Northwest Quarter, in other words, east 40 acres of that 80 acre unit.

(Messrs. E. A. Paschal, R. F. Herron, E. O. Hemenway were sworn.)

MR. IDEN: We may not use all the witnesses here. They are present to present such information as anybody may wish to ask.

Q. What is your name?

A. E. A. Paschal.

Q. What company do you represent?

A. Oil Development Company of Texas.

Q. What is your connection with this company?

A. Manager of production.

Q. Before we proceed, you have certain Exhibits prepared-- a map as Exhibit A--is that correct?

A. Yes.

Q. The map speaks for itself. For the purpose of the record,

tell the Commission what the map shows and what was intended.

A. This map shows wells which have been drilled in the Cross-roads Field, giving emphasis to those that have been drilled to Devonian formations. It shows also the east west 80-acre pro-ration units established by the Commission for the Devonian in its order of July 27, 1948. There is also shown by the purple figures the subsea depth to top of the Mississippian formation on various wells.

Q. Those purple figures look red.

A. They are supposed to be purple. They show the top of the Mississippian formation on various wells. The green figures near each well show the subsea top of the Devonian formation in that well. There is also shown on the map attached a green line which represents the approximate location of a fault. On the west of the line all wells were salt water and no oil, and the wells on the east side contain oil.

Q. Does this map show acreage where your company has leases?

A. No, sir. We have west quarter section of Section 27 and 160 acres in east quarter of Section 28. We also have other leases shown on confines on the map--west half of Section 22, and the east quarter of Section 21.

Q. Now the well which has already been drilled by your company, is that shown in the southwest quarter of the northwest quarter of Section 27?

A. Yes, it is marked 1-27 on this map.

Q. I was going to the other exhibit, but I wish to point out a matter which comes to my attention with reference to various depths of various wells on either side of the fault, would you care to enlarge on this?

A. Well, it will be seen from the map that the well we count west of northwest of Section 27 is producing 880 feet lower

structure on top of Devonian.

Q. About how long ago was that well completed to salt water?

A. In October.

Q. Do you know whether any other well have been completed in this pool since that time?

A. No, sir, there haven't been any.

Q. Did the fault that you have shown on this map--would you care to state to the Commission on what facts you base your opinion that there is a fault at that approximate location.

A. This fault is based upon relative subsurface depth at which the Mississippian and Devonian formations are found in the various wells, which we think represents a faulted condition rather than a dip. We have placed this fault line midway between Midcontinent UD Sawyer in northwest of Section 34 and Midcontinent Dessie Sawyer No. 1 at southwest of Section 27. We have the line extending north digressing west. We did a Schlumberger type of survey which we took in our well 11-27 at southwest of northwest of 27. This showed a dip on all formations below about 10,500 feet and above the Mississippian line to be an average of south 79, digressing west or strike of 11, digressing west of north, and this line has been projected in that manner.

Q. And in the southeast of northwest of 27 you have placed a mark, a cross, on this exhibit?

A. Yes.

Q. And the placing of the cross is not in accordance with the present spacing plan for this pool. You could not drill there without the Commission allowing the exception?

A. That is correct.

Q. Why do you prefer to drill there rather than in the northwest of the northwest quarter?

A. If a well is drilled at this location in the south half of

the northwest of Section 27, we think it will be east of the fault, and it will produce. Thereby, we will be permitted production for this 80 acres by which we will protect our property against wells which are offsets to that location.

Q. The well in the west 40 was drilled to what depth?

A. 12,657 feet.

Q. It was salt water, no gas?

A. Yes, sir.

Q. What was the cost in round figures?

A. We have done considerable testing, pipe in well, plugging, testing--in excess of \$300,000.00 as the well now stands.

Q. Do you have any other comment to make to the Commission with reference to this particular Exhibit?

A. I think not.

Q. We show plat marked Exhibit B for identification, will you tell the Commission what that shows and what is intended to convey in a general way?

A. This Exhibit B is a west east cross section through the Crossroads Field. It is intended to show formations encountered in the drilling of the three Devonian oil wells located east of the fault and the formations encountered in two of salt water dry holes located west of the fault line.

MR. IDEN: We offer Exhibits A and B in evidence as part of the testimony.

CHAIRMAN SHEPARD: They will be received. Do you have any further information which you wish to state to the Commission?

MR. IDEN: So far as I know that is all I have in mind. I think not. If the Commissioners have any questions, we have two other witnesses, Mr. Hemenway and Mr. Herron, to answer any questions.

MR. CROCKER: J. H. Crocker, Midcontinent Petroleum Corporation.

Does the Santa Fe own mineral rights in the south half of Section 22?

MR. PASCHAL: Yes, they do.

MR. CROCKER: Magnolia has a lease on the east quarter?

MR. PASCHAL: Yes.

MR. CROCKER: You have an oil development lease on the southwest quarter?

MR. PASCHAL: Yes, sir.

MR. CROCKER: With respect to orthodox locations I am referring to the northeast quarter of the northwest quarter of Section 27, do you have any opinion as a geologist as to the probable productivity of that 40-acre tract?

MR. PASCHAL: Well, I hope that it will be productive, but we have no way of knowing. If the fault continues as indicated and no dip, it should be productive. There could be cross faults of which we know nothing. There are no wells drilled to give us any information to answer that question.

MR. CROCKER: If we might assume, production is possible future picture on the assumption that Magnolia might drill a well in the southeast quarter of Section 22 and get a producer, it is altogether probable, I take it, that the Santa Fe might want to utilize the orthodox location of northeast quarter of northwest quarter of Section 27?

MR. PASCHAL: I think so.

MR. CROCKER: That would be possible?

MR. PASCHAL: If that were done and if the Commission were to--

MR. CROCKER: If the Commission were to grant your application for an exception to the present spacing rule, it would result in the Santa Fe having a well, two wells say, on the east half of the northwest quarter of Section 27, would that be correct?

MR. PASCHAL: Yes.

MR. CROCKER: In that event it is entirely possible this spacing pattern as approved by the Commission and promulgated by it would be more or less disorganized to a point where we would just about have no 80-acre spacing because one exception might reasonably call for another, might it not?

MR. PASCHAL: I don't think it would necessarily open up the whole thing to do with 80-acre spacing. I can see, assuming that this fault line extended on northerly, where you might space wells better for drainage of the pool to get away from the Commission's Order, which is designated wells at southwest and northeast quarter sections of each section, where it might be better to change the pattern based on more knowledge than we had when this particular Order was written.

MR. CROCKER: I believe that is all. I would like to make a statement when you have the evidence all in.

MR. BORLAND: C. D. Borland with Gulf Oil Company. We are interested in the acreage. It is OK for any 40-acre spacing in the Crossroads Pool unless under conditions of reduced or adjusted allowable.

CHAIRMAN SHEPARD: Anyone else? Do you care to make a statement, Mr. Crocker?

MR. CROCKER: I will wait until Mr. Iden is through with his evidence.

MR. IDEN: I may conclude what I have to say, which will be very short. The facts before the Commission seem to be fairly clear and not involved. We feel in view of expending money and drilling a dry hole and in view of conditions as they now exist, we think this Commission should give consideration in the matter of making an exception in this instance. We believe it would be

the proper thing to do for pretesting and the orderly development of this pool, and we will ask the Commission to grant permission.

MR. CROCKER: If the Commission please, this Order wasn't a makeshift proposition by any means. Midcontinent Petroleum Corporation has the east half of 27 and the southwest quarter of 27. We have drilled the area that borders the Santa Fe tract on the east and on the south. We have drilled four wells in the pool. I believe seven or eight wells have been drilled, I am not sure. We likewise drilled a dry hole after we moved to an orthodox location south and west and got a dry hole. Our discovery well, in our opinion now, has a doubtful future as to whether it will ever pay out. We have \$1,160,000.00 on our operations in red figures. However, after the discovery well, being probably the deepest in the State at that time, there was a meeting in Tulsa by the operators. We were favored by having Mr. Spurrier, Mr. Staley, and Mr. Morrell, in addition to Santa Fe representatives and other operators. It was realized by that group the economics of the situation certainly required some kind of special action on the part of the Commission. I believe that 40-acre spacing had been pretty generally followed therefore. We invoked the Commission's jurisdiction on the matter of spacing. A hearing was set for July 15, 1948. On the day previous to the hearing, the operators met in Santa Fe and prepared their case. The next day Mr. Hemenway and Mr. Paschal were in the meeting as engineers and geologists of other companies. We all came before the Commission with, I believe I can truthfully say, with everything being satisfactory without any dissents whatsoever, everybody agreed. I think there were four wells drilling at that time, and all four we had been able

to get from the discovery well. I presume when it came to the Commission it looked like about the biggest thing that had ever happened. We got a 500 barrel allowable. We studied the reservoir and gave our information to our neighbors, and we found that we were right on the water line. That made us all feel doubly sure that perhaps in reservoir conditions the hazards were so great that this was an entirely proper situation for 80-acre proration units. Mr. Spurrier just asked me if I recalled the reasons why the lines were drawn through the quarter sections from east to west instead of north and south. I don't remember, and I don't know whether anybody does. Anyway I do remember that through collaboration at the time that plat was made which was submitted to the Commission. We certainly have no quarrel with the Santa Fe, we regard them very highly. Any place that we could extend a courtesy, we would be more than happy to do so. We do feel constrained in this particular case and at this particular time to insist that it is premature for the Commission to grant that application. I think the matter was very capably handled on the part of the Commission and the U. S. Geological Survey. The Bureau of Mines was represented, and the thought was pretty generally exchanged over the conference table, and it was our agreement and our thought because of the enormous cost of these wells we would soon go broke trying to develop on a basis of 40-acre spacing. I realize perhaps we could get into a situation here with the Santa Fe later coming in and drilling orthodox location in the northeast quarter of the northwest quarter of Section 27. I take it would require appearing before the Commission in order to give them full allowable. We think that exceptions should be granted only on most compelling reasons, and it occurs to us that this pool is not

defined to the north and to the east, and it is quite probable we might have the Santa Fe in there exercising its prerogative to use that orthodox location. Now, I don't know how the attorney for the Commission or the attorney for the Santa Fe feels, but the matter came before the Commission after full and complete discussion, a meeting had been held. Even though additional wells have been drilled, it occurs to us that property has been created, invested, large sums of money were spent; and if the Commission grants this exception, certainly it should be on reduced and adjusted allowable. In our opinion, we don't think this spacing pattern can legally be changed probably without unanimous consent by everybody who has rights created by the Commission's order. I may be wrong on that; I find that I am so many times. So without taking up more of the Commission's time, we would like for the record to show that we object to the exception being granted. In the alternative, if the Commission by virtue of its power to make rules, figures it has power to grant an exception, and I don't question that. If they feel the reasons are sufficiently compelling, we ask that it be safeguarded by a reduced and adjusted allowable.

MR. CAMPBELL: Texas Pacific Coal & Oil Company has no interest in this particular application. I would have the record show that the statement was made on their behalf that this application coupled with the suggestion of Mr. Crocker that the Commission might not be able to legally change the spacing pattern without the unanimous consent of the operators points up the fact that inflexible spacing orders in the early stages of development can create considerable difficulty in the orderly development of these common sources of supply.

CHAIRMAN SHEPARD: Anyone else care to make a statement?

MR. IDEN: I wasn't before the Commission at the time of the hearing after which the Order of July 27, 1948 was issued, but it seems very clear that the Commission had in mind that it would be open for consideration of exceptions and changes in that pattern. Section 8 of that Order read, "The Commission retains jurisdiction of this case for the purpose of issuing such further and additional orders as may be necessary to meet changed conditions, preclude, amortize, and preserve correlative rights; or upon the motion of the Commission or upon the petition of any interested operator upon a public hearing, after notice as provided by law." As I understand, at the time the hearing was held, there was only one well, the discovery well, and that the Commission more or less arbitrarily in either direction from that well set up this spacing program. As I understand, there is no drilling in that so-called Crossroads; development is somewhat at a standstill. That might be to some extent on account of the cost of drilling those wells. But it seems self-evident after this testing, that that standstill is because there is something wrong with the spacing. We have no quarrel with the spacing procedure. If this Commission in contemplating this matter feels free to exercise its discretion and its equitable consideration in a matter of this kind and grant the Order, our Company is in a position to drill at a place where it is proper and practical to do so.

CHAIRMAN SHEPARD: Anyone else? If there is nothing further, the case will be taken under advisement. The meeting is adjourned.

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#### C E R T I F I C A T E

I HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Commission of New Mexico, in Santa Fe, New Mexico, on November 22, 1949, at 10:00 A.M., is a true record of such proceedings to the best of my knowledge, skill, and ability.

DATED at Albuquerque, New Mexico, this 30th day of November, 1949.

*Margaret Powell*  
Reporter