CASE 3612: Application of ROGER C. HANKS for an unorthodox oil well location, Lea County.

Case Number

3612

Application

Transcripts.

Small Exhibits

ETC.

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

August 1, 1967

Mr. Donald G. Stevens
LeMay & Stevens
Post Office Box 2244
Santa Fe, New Mexico

Re: Case No. 3612
Order No. R-3285
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.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
Other Mr. Harry S. Connelly, Jr., Mr. Clarence Hinkle and Mr. Jason Kellahin

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. 3612
Order No. R-3285

APPLICATION OF ROGER C. HANKS
FOR AN UNORTHODOX OIL WELL LOCA-
TION, LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 12, 1967, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 1st day of August, 1967, 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 authority to drill an oil well at an unorthodox location 660 feet from the South line and 660 feet from the East line of Section 24, Township 9 South, Range 32 East, NMPM, South Flying "M"-Pennsylvanian Pool, Lea County, New Mexico.

(3) That the Special Rules and Regulations governing the South Flying "M"-Pennsylvanian Pool provide that the initial well on any 80-acre unit shall be located within 150 feet of the center of either the northeast quarter or the southwest quarter of a governmental quarter section.

(4) That the proposed location, in the SE/4 SE/4 of said Section 24, is an off-pattern quarter-quarter section location.

(5) That the applicant proposes to dedicate the S/2 SE/4 of the aforesaid Section 24 to the subject well.

(6) That the entire S/2 SE/4 of the aforesaid Section 24 can reasonably be presumed productive of oil in the South Flying "M"-Pennsylvanian Pool.

(7) That the evidence indicates that a well drilled at the proposed non-standard location in the SE/4 SE/4 of said Section 24 should result in greater ultimate recovery of oil than a well drilled at a standard location, thereby preventing waste.

(8) That the correlative rights of offset operators will be impaired if the subject well is assigned a standard allowable for the subject pool.

(9) That approval of the proposed unorthodox location will not violate correlative rights and will afford the applicant the opportunity to produce his just and equitable share of the oil from the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and otherwise prevent waste, provided the subject well receives no more than 67 percent of a standard allowable for the South Flying "M"-Pennsylvanian Pool.

IT IS THEREFORE ORDERED:

(1) That the applicant, Roger C. Hanks, is hereby authorized to drill an oil well at an unorthodox location 660 feet from the South line and 660 feet from the East line of Section 24, Township 9 South, Range 32 East, NMPM, South Flying "M"-Pennsylvanian Pool, Lea County, New Mexico;

PROVIDED HOWEVER, that the subject well shall be assigned no more than 67 percent of a standard allowable for said pool.

(2) 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

GUYTON B. HAYS, Member

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

esr/

BEFORE THE OIL CONSERVATION COMMISSION

OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF ROGER C. HANKS FOR AN UN-
ORTHODOX WELL LOCATION IN THE
SOUTH FLYING M PENNSYLVANIA POOL,
LEA COUNTY, NEW MEXICO.

No. 3612

ENTRY OF APPEARANCE

Come now Stephenson, Campbell & Olmsted, attorneys at law, and hereby enter their appearance in the above entitled cause as New Mexico counsel for Roger C. Hanks.

STEPHENSON, CAMPBELL & OLMSTED

By Harry Stevenson Jr

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF)
ROGER C. HANKS FOR AN UNORTHODOX WELL)
LOCATION IN THE SOUTH FLYING M PENN-)
SYLVANIAN POOL, LEA COUNTY, NEW MEXICO.)

Case No. 3612

APPLICATION

Comes now Roger C. Hanks by and through its undersigned agents and states:

1. Roger C. Hanks is the operator of the premises involved in this application; his address is 1102 Oil and Gas Building, Wichita Falls, Texas 76301.

2. As an exception to the special pool rules for the South Flying M Pennsylvanian Pool, which rules were promulgated by Order R-3228 in Case 3559, dated May 3, 1967, Roger C. Hanks requests permission to drill a well at a location approximately 660 feet from the South line and 660 feet from the East line of Section 24, Township 9 South, Range 32 East, N. M. P. M., Lea County, New Mexico, which well is to be drilled to test and explore for oil and associated hydrocarbons within the South Flying M Pennsylvanian Pool; a plat of the area involved in this application, showing the proposed location of the unorthodox well location, and other relevant data, is attached hereto and marked Exhibit "A".

DOCKET MAILED

Date 6-29-67

3. The unorthodox location sought herein is necessary in order to permit applicant to recover his just share of the oil and gas underlying the tract to be dedicated to said well, consisting of the S½ SE¼ of said Section 24, Township 9 South, Range 32 East, and the protection of correlative rights of all parties,

4. That all of said S½ SE¼ may reasonably be presumed to be productive of oil or gas, or both, from the South Flying M Pennsylvanian pool.

5. If this application is granted, applicant proposes to designate the well involved herein as Roger C. Hanks #1 McGuffin.

IT IS THEREFORE RESPECTFULLY SUBMITTED that this application be set for an examiner's hearing, and upon such hearing that permission be granted to drill the unorthodox well location sought herein.

Respectfully submitted,

Roger C. Hanks

By Donald G. Stevens
Donald G. Stevens, for LeMay & Stevens, P. O. Box 2244
Santa Fe, New Mexico,

Agents for Applicant.

APPLICANT'S EXHIBIT A

REGULAR LOCATION

PROPOSED LOCATION

Roger C. Hanks

MESCALERO NO. 7

BTA

MIDLAND © MAP

Docket No. 20-67

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 12, 1967

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 3608: Application of Union Oil Company of California for the creation of a new gas pool and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for Permo-Pennsylvanian gas production from its Forni Well No. 1 located in Unit I of Section 15, Township 22 South, Range 27 East, Eddy County, New Mexico, and for the promulgation if special pool rules therefor, including a provision for 640-acre spacing.

CASE 3609: Application of Texas Pacific Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its J.P. Collier Well No. 4Y located in Unit G of Section 10, Township 11 South, Range 33 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Northeast Bagley-Wolfcamp and the North Bagley-Upper Pennsylvanian Pools through parallel strings of tubing.

CASE 3610: Application of Texas Pacific Oil Company for a dual completion, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Bluitt State Com. Well No. 1 located in Unit I of Section 32, Township 7 South, Range 37 East, Roosevelt County, New Mexico, in such a manner as to permit the production of gas from the Bluitt Wolfcamp and Bluitt San Andres Gas Pools through 2-inch tubing and the casing-tubing annulus, respectively.

CASE 3611: Application of Texas Pacific Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Ella Drinkard Well No. 2 located in Unit E of Section 25, Township 22 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from undesignated McKee and Ellenburger pools through parallel strings of tubing.

CASE 3612: Application of Roger C. Hanks for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well in exception to the South Flying "M" Pennsylvanian Rules at an unorthodox location 660 feet from the South line and 660 feet from the East line of Section 24, Township 9 South, Range 32 East, Lea County, New Mexico.

CASE 3613: Application of Sunray DX Oil Company for an amendment to Order No. R-1636-A, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the amendment to Order No. R-1636-A, which order established special rules governing the operation of the Sunray Mid-Continent Central Bisti LPG-Gas-Water Injection Project, Bisti-Lower Gallup Oil Pool, San Juan County, New Mexico. Applicant seeks the reclassification of said pressure maintenance project, for the purpose of filing reports, as a waterflood project.

CASE 3614: Application of Shiprock Corporation for an amendment to Order No. R-1438, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-1438, which order established special rules for the Shiprock-Gallup Oil Pool. Applicant seeks the deletion of that provision of said rules which provides that wells shall not be located closer than 300 feet to the nearest well producing from the same pool. Applicant would further amend said rules to permit the drilling of wells closer than 165 feet to the outer boundary of the quarter-quarter section, but in no event closer than 165 feet to the boundary of acreage owned by an offset operator.

CASE 3615: Application of Humble Oil & Refining Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Paddock (San Angelo) Unit Area comprising 3758 acres, more or less, of Federal, State and Fee lands in Townships 21 and 22 South, Range 37 East, Lea County, New Mexico.

CASE 3616: Application of Humble Oil & Refining Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Paddock (San Angelo) Unit Area by the injection of water into the Paddock formation through six wells located in Section 35, Township 21 South, Range 37 East, and Section 2, Township 22 South, Range 37 East, Paddock Pool, Lea County, New Mexico.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 12, 1967

EXAMINER HEARING

IN THE MATTER OF:

Application of Roger C. Hanks for an unorthodox oil well location, Lea County, New Mexico. Case No. 3612

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

MR. NUTTER: We will call next Case 3612.

MR. HATCH: Application of Roger C. Hanks for an unorthodox oil well location, Lea County, New Mexico.

MR. CONNELLY: Mr. Examiner, I am Harry S. Connelly, Junior with the firm of Stephenson, Campbell and Olmsted, appearing as New Mexico resident counsel for Applicant Roger C. Hanks. Mr. Don Stevens, a member of the Texas Bar, and myself will participate in the case. We have one witness to be sworn.

MR. STEVENS: Mr. Examiner, I am Don Stevens of the firm of LeMay and Stevens, representing the Applicant Roger C. Hanks. One witness to be sworn, Mr. LeMay.

(Witness sworn.)

MR. HINKLE: Mr. Examiner, Clarence Hinkle, Hinkle, Bondurant and Christy, Roswell. I would like to enter an appearance in this case on behalf of John W. Ruwwe and Lee C. Holder.

MR. NUTTER: Thank you. Are there any other appearances in Case 3612?

MR. KELLAHIN: Jason Kellahin, Kellahin and Fox, Santa Fe, appearing on behalf of BTA Corporation.

WILLIAM J. LeMAY

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

DIRECT EXAMINATION

BY MR. STEVENS:

Q Mr. LeMay, would you state your name, address, your firm, your position in this application?

A My name is William J. LeMay, consulting geologist, partner in the firm of LeMay and Stevens, Santa Fe, New Mexico. I am appearing as a witness in Case 3612 on behalf of Mr. Roger Hanks of Wichita Falls.

Q Have you testified previously before the Commission?

A Yes, I have.

Q Could you give a brief educational, geological and petroleum background for the Commission?

A I graduated from Carlton College in Northville, Minnesota, 1955, Bachelor of Arts Degree, major in geology, Master's Degree from the University of Michigan in 1956. Worked for Pan American Petroleum Corporation and Hondo Oil and Gas Company in Roswell, New Mexico and Lubbock, Texas and have been a consulting geologist from 1962 through 1966 and then just recently a partner in the firm of LeMay and Stevens.

Q During this interval have you written any scholarly papers?

A I have written a paper on the Abo Reef, Abo reefing in Southeastern New Mexico in 1960, which appeared in World Oil and Transactions of Southwest Federation and Geological

Societies as well as the paper on the San Andres just recently appeared in the Oil and Gas Journal and presented before the Southwestern Federation. It was in Hobbs, Federation meeting was.

MR. STEVENS: Mr. Examiner, will you accept the qualification of the witness?

MR. NUTTER: Yes, he's qualified. Please proceed.

Q (By Mr. Stevens) Are you familiar with the application of Mr. Roger Hanks before the Commission today?

A Yes, I am.

Q Would you explain briefly the substance of his application?

A Mr. Hanks is requesting that an unorthodox location be granted in the South Flying "M" Pennsylvanian field in Lea County, New Mexico. The Commission has laid field rules for the field which made spacing rigid in the sense of the location must be either in the Northeast or the Southwest of the 160-acre unit, the quarter section, in other words, and 150-feet tolerance from the center of this, of the quarter quarter section and Mr. Hanks has 80 acres located in the South Half of the Southeast Quarter of Section 24, Township 9 South, Range 33 East. The rigid location would be in the Southwest of the Southeast and Mr. Hanks has requested an unorthodox location which would be in the Southeast of the

Southeast, actually 660 feet from the South and East lines of Section 24.

Q Could you give that township and range again, please?

A Yes. It's Township 9 South, Range 32 East.

Q Yes. Are you familiar with the northwest portion of the Tatum Basin in Lea County, New Mexico?

A Yes, I am. The northwestern portion of the Tatum Basin is an area where there are regional traps in the Bough "C". Some of the fields which produce in this area are the Tobac field just to the north of the area in question here. It's Bough "C" production. Of course, now, this South Flying "M" Pennsylvanian field to the south of this, there is the Embee field and the middle Lane field and the depleted Lane field.

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

Q Referring to Applicant's Exhibit No. 1, could you briefly explain that to the Commission?

A Exhibit No. 1 is a land map of the area showing the Hanks 80 and the offsetting operators to the north and to the northwest, Allied Chemical, to the east, Coastal States, I mean to the west, excuse me, Coastal States has an 80. Mr. Hanks, I believe, has the working interest now in the

Northeast Quarter of Section 25 to the south of the Hanks 80. To the east there's BTA and Union Texas Petroleum.

Q How many wells are presently producing in that field?

A There are three wells currently producing in the field to date.

Q Could you describe the locations of those producing wells?

A Yes. The first well drilled was the Union Texas No. 1 McGuffin and it is located in Section 30, 660 feet from the North, 1980 from the West line, and that well, as I mentioned, was a discovery well in the field and produced approximately for a year until the second well was drilled, which was the BTA No. 1, I believe, FMS Limited, that well being located 330 feet from the South and 650 feet from the West line.

After that well was drilled BTA went into a previously abandoned Union Texas hole and set pipe and made a completion in the Bough "C", I think, in their FMS No. 2, previously called the Union Texas No. 1 American Trading. That well is located 660 feet from the South and 1980 from the West of Section 19.

Q Based on the field rule set up for the South Lane Pennsylvanian field, are these standard locations?

A No, there is only one standard location and that

would be the BTA well, the discovery, not the BTA, excuse me, the Union Texas discovery well, which would be in the set pattern. The other two wells, the BTA wells are off pattern location, the No. 1 would be 330 feet from the South line and that is outside the tolerance of the present field rules which are only 150 feet from the center of the quarter quarter section. The second well is an off pattern location because it is in the wrong 40.

(Whereupon, Applicant's Exhibits 2 & 3 were marked for identification.)

Q Referring you to Exhibit No. 2 of the Applicant's, could you explain that, identify and explain that to the Commission?

A Exhibit No. 2 is a structure map of the general area of the Flying "M" field, utilizing the available Bough "C" control to draw the interpretation both on Exhibit No. 2 and Exhibit No. 3. The control being the SRR field, which is a Devonian field, most of the wells are depleted in there, but, of course, the wells penetrated the Bough "C" and there are datums available for subsurface control.

To the north there are two wells in Section 1 of 9, 32. One well is a Lario re-entry and is currently a Bough "C" producer and the second well is a recently completed Hanks well, which is a Bough "C" completion, dry hole in

Section 3 and, of course, the South Flying "M" field control and two scattered tests over to the east which give the subsurface control for drawing the interpretation. The dip on the Bough "C" in the Tatum, northwestern flank of the Tatum Basin is to the east. Regional dip is east and most all of the traps to date in the Bough "C" on the northwest flank of the Tatum Basin have been porosity-permeability pinchouts updip. They have been regional traps and they have not been confined or controlled by structural closure.

Q Could you tell us the procedure you used and in the construction of this map, including the reference points you had in the South Flying "M" Pennsylvanian field itself?

A Well, I have kept the dip constant, which is a, the usual procedure in the geologic mapping and the Strawn high, which is the SRR field, the Strawn structure seems to be the controlling structural element. Now the Bough "C" is tight on top of the SRR field.

As you go off on the flanks you can see the production to the north and to the south and the available control was incorporated in the -- Of course, the regional interpretation, that contour interval is on a 50-foot contour interval and the datum used was the top of the Bough "C" formation.

Q Could you describe for us the Bough "C" formation

in the northwest shelf?

A The Bough "C" formation is probably Upper Pennsylvanian in age, although sometimes it's called Lower Wolfcamp and it is a section varying between 20 and 35 feet gross of fine to medium to coarse crystalline limestone with vuggy porosity in places where it does exhibit porosity, pinpoint porosity. It has excellent permeability. The millidarcies are usually measured in darcies in the Bough "C". The porosity varies, of course, from zero to I think I've seen a maximum of 25 feet net porosity.

Q You testified that the trapping mechanism in most of the fields along this area is an updip pinchout. Could you describe the trap in the SRR field, in your opinion, excuse me, I meant the South Flying "M" field?

A The South Flying "M" field, as shown on Exhibit No. 3, is basically the same interpretation as the regional picture, only on a 20-foot contour interval. The available control indicates that it is a stratigraphic trap to date. Section 25, of course, has not been drilled yet, but the two wells that are on strike are the original discovery well, the Union of Texas McGuffin, and the first BTA well. There's only two feet of difference in those subsea datums. These are the control points for the strike lines.

This second well by BTA, the re-entry is a low well.

It's twenty feet low to their first well and the Shell well, which is a dry hole in Section 30, or supposedly a dry hole, it is the highest well in the field and had the tightest Bough "C" section.

MR. NUTTER: Is that the well that is 4643?

A Correct.

MR. NUTTER: That is Shell --

A That's Shell Richardson No. 2. That's the only dry hole that has been drilled to the Bough "C". The other well control in the area that is not circled with shallow control, for instance, the well in the Northwest Northwest of Section 30 is a depleted San Andres well, Shell Richardson No. 1. The well over in 24 is a sputter, they never did drill it down as well as the other wells. All the wells that penetrated the Bough "C" are circled on all the exhibits.

The trapping condition, as I see it, in the Flying "M" field is a regional, not a regional, say a porosity pinchout grading from ten to thirteen feet of pay in the main field to zero pay, and I have shown the zero foot porosity line indicated on Exhibit No. 2 which corresponds to the zero line on, I am sorry, the zero porosity line on Exhibit No. 3 which corresponds to the zero line on Exhibit No. 4. This is a, interpreted and controlled by the structure in the area by the strike lines, which is in accordance with the

general trapping conditions of the area to the north, and as I mentioned, the other two fields, the closest fields being the Tobac field and the Embee field to the south, there's an updip pinchout which generally corresponds to strike lines updip.

(Whereupon, Applicant's Exhibit No. 4 was marked for identification.)

Q Could you describe the purpose of Exhibit No. 4 and No. 3 together? You have gone into that partially but tie them together as regards that zero pinchout line.

A Well, Exhibit No. 4 is a net pay isopach map of the Bough "C" formation in the South Flying "M" field. The figures listed by the wells are net feet of pay taken off the logs and these figures are contoured into an isopach map. I used, the sonic logs were available and, of course, the No. 1 BTA well did not have a sonic log available. It had only gamma ray neutron logs and I had to interpret that by generally eyeballing the pay as compared to the other wells. I used 50 microseconds as the cutoff line, which on the sonic log is approximately 4-1/2%, and this will contribute fluid to the well bore.

The gamma ray neutron log had to be interpreted from both the drilling time that I heard, the rate of drilling time and also the appearance of the log, and going over those

log by log, the discovery well had ten feet, the BTA No. 1 had 13 feet and the No. 2, the re-entry had ten feet. Now, the Shell Richardson, the dry hole in Section 30 had four feet and they did test almost a thousand feet of fluid from the Bough "C", being mostly water, but that, I don't think that is a conclusive test of the Bough "C" because when Union Texas drilled their No. 1 American Trading well they also tested water, had little better pressures, but they tested water, even set pipe and produced water, never put the well on production, and when the well was re-entered the Kobe pump was installed and the oil just started coming in at the top of the well.

Q Does it still make a lot of water?

A It still makes quite a bit water but it's making, the oil percentages increased and the water decreased. It's very difficult to say a well is dry until it has been actually on production and usually a bottom hole pump installed where large quantities of water are present.

Q Is this common in the northwest shelf of the Bough "C" formation?

A Very common. It's been a recent development that the decrease has tended to increase exploration activity for Bough "C" because you don't just want to just walk away from a well until you, if it makes any kind of fluid, until you

perforate it and install a bottom hole pump. I think this has happened in the Hanks well, too, the percentage of oil has increased, the percentage of water decreased.

Mr. Morris

Q This is the Hanks well up in Section 1?

A Yes, they installed a Kobe pump on it and the performance is superior to the performance of the Lario re-entry where they only have a bead pump.

Q Could you give us your interpretation of the structural position of the staggered 80 location, on pattern location and the Roger Hanks proposed location as relates to the field?

A The staggered 80 location, or the standard location, I have used these both as center locations. I haven't taken any of the 150-foot tolerance on either one. But the staggered 80 location would be updip from the proposed location and, therefore, would encounter less net feet of pay than would the proposed location. The approximate difference there of 15 feet probably between the proposed location and the staggered 80 location.

It's regionally updip and also locally updip with the available control, as you see, going from west to east on those wells, or east to west with the old well workover there at 4639 and then went up 20 feet to the No. 1. I would expect the same approximate increase in structural position going up

as you go west. This, in turn, would control the porosity as you go west, as you went updip you would be losing the net feet of pay.

Q How does this compare with the Shell Richardson structurally?

A I would say that the standard location, the staggered 80 location would be just slightly high or slightly lower, I am sorry, than the Shell Richardson. I would anticipate that at approximately 4650, which would probably be seven feet low to the Shell Richardson. It's in the center between the contours 4640 and 4660, Shell Richardson was 4643.

Q Your zero pinchout line follows the contour lines on your structure map. Could you explain your reasoning for following this pattern?

A Well, as I mentioned previously, the updip termination of these fields is usually a strike line and, therefore, when you are drawing the isopach values, although they do vary locally, generally they conform to wells being on strike having comparable thicknesses of the pay and the big thing is as you do go updip the porosity does thin down until it eventually pinches out, and that was the principle I used in both, in the isopach map and in the zero line of the isopach map transposed upon the structure map, Exhibit No. 3.

Q In your opinion is the Roger Hanks entire 80 acres productive of oil and gas?

A Yes.

(Whereupon, Applicant's Exhibit No. 5 was marked for identification.)

Q Referring to Exhibit No. 5, the cross section, would you explain that to the Commission?

A Exhibit No. 5 is two cross sections across the South Flying "M" field. The top cross section A-A is that east-west line I was talking about with both the proposed and the staggered 80 location projected in. Cross section B-B^1 connects to three wells, three out of the four wells that are currently in the field. Two wells producing and one dry, supposedly dry hole. Going to cross section B-B, where we do have well control, I have used the, colored in dark red that part of the log which is above 4-1/2%, which is definitely considered pay and the isopach values of pay are also listed on that, being respectively ten feet, ten feet and four feet on cross section B-B, going from north to south.

You'll notice especially the fact that the interval of porosity thins between the Union Texas McGuffin No. 1 and the Shell Richardson No. 2, anticipating a complete pinchout of porosity approximately a quarter mile southwest of the Shell Richardson No. 2. The upper location, the upper cross

section uses this same principle in projecting the pay thinning going updip and you can see there's an estimated ten feet of pay in the proposed location and an estimated five feet of pay in the standard location of the staggered 80 location.

Cross section A-A is shown on the net porosity map, a small section of it in the upper right-hand corner. Cross section B-B is shown on the structure map, which are repeats of our previous exhibits only a smaller version of them.

(Whereupon, Applicant's Exhibit No. 6 was marked for identification.)

Q Referring then to the Applicant's Exhibit No. 6, "Economics of Bough "C" Development", could you explain that to the Commission?

A Yes. Keeping in mind the fact that the standard location we anticipate five feet of net pay and in the proposed location we anticipate ten feet, economics have been drawn up on Exhibit No. 6, entitled "Economics of Bough "C" Development in the South Flying "M" Field, Lea County, New Mexico". The gross income per barrel is $2.95. The royalty at 12-1/2%, 37¢, the tax at 6.7%, 20¢, operating costs and cost per barrel of 30¢, which yields a net income of $2.08 per barrel.

The next group of equations there are our reserves

derived from the standard formula, substituting the various pay thicknesses and the standard location, which would be the one on the extreme left in the cross section with only five feet of pay recovery factor of 40%, anticipate 526 barrels of oil per acre, which would yield a total recovery from a well drilled in that standard location of 42,120 barrels.

With the proposed location, which is the one on the cross section to the east of the standard, anticipating ten feet, would yield 1,053 barrels of oil per acre or 84,240 barrels per 80 acres.

The last item on the recovery per well there is the average field well, and if you average ten feet, ten feet and thirteen feet you have an average pay thickness of eleven feet, utilizing again the recovery factor of 40% and porosity of 7%, formation volume factor of 1.65 and oil saturation of 80%, would yield a figure of 1,158 barrels per acre or 92,640 barrels per 80 acres, which would be the anticipated recovery under the well.

Under the economics, the reserves are listed as derived from the formula, the gross income per barrel, the net income per barrel being all the same and the cost of a flowing well completed in the Flying "M" field to be 125,000, would yield an estimated net income on a standard location of $87,610.00. These are converted to dollars; now proposed

location, $175,522.00, and on the average field location, $192,691.00.

The final item on this sheet is the return on investment, which would yield on the standard location .70, which is not recovering the total money invested in the well, recover 70% of it, on the proposed location it would be 1.40, of not quite 1-1/2 of your money, and the last item would be 1.52, which is the average field well. Those are the percentages and return on investment figures.

Q Based on these figures and your study of the field, northwest shelf, would you recommend drilling on the staggered standard location to a client?

A I would not, because you would not recover your money.

Q Would you recommend drilling on the proposed location?

A Yes, I would.

Q In your opinion, would the granting of this application to drill in the proposed location protect the correlative rights of the operator and the royalty owner?

A Yes. By drilling on the proposed location you would be protecting the correlative rights of the operator and the royalty owner because if that well was not drilled, offset operators would be draining the good part of the 80

and part of the oil would probably never be recovered if a well was not drilled.

Q Then you would say that the granting of this application would recover oil otherwise unrecoverable?

A Yes, sir.

Q Would you say in your opinion that the granting of this application would allow the operator and the royalty owner to recover his fair share of oil under the tract?

A Yes.

Q Do you have any interest, Mr. LeMay, whatsoever in the South Half of the Southeast of Section 24, Township 9 South, Range 32 East?

A No, I do not.

Q Will you receive any compensation for your work other than your usual consulting fee?

A I will not.

Q Mr. LeMay, were Exhibits 1 through 6 prepared by you or under your supervision?

A Yes.

MR. STEVENS: At this time, Mr. Examiner, we would like to offer into evidence Exhibits 1 through 6.

MR. NUTTER: Applicant's Exhibits 1 through 6 will be admitted in evidence.

(Whereupon, Exhibits 1 through 6 offered & admitted in evidence.)

MR. STEVENS: We have no further questions.

MR. NUTTER: Are there any questions of Mr. LeMay?

MR. HINKLE: I would like to ask a question or two.

CROSS EXAMINATION

BY MR. HINKLE:

Q Mr. LeMay, refer to your Exhibit No. 3 which purports to be a field structure map. I notice you have a dry hole indicated in 24 and also one in 25, is that right?

A No, there's no dry hole in Section 24. Those are proposed locations. Oh, the two shallow wells there?

Q Yes, the two shallow wells.

A Yes.

Q Those are shallow wells?

A Correct.

Q Is there any control for this contour map, plat here, as far as Sections 24 and 25 are concerned?

A Not at Bough "C" level, only the projected control that is obtained in Sections 19 and 30 and in the SRR field over to the west.

Q And they're quite a distance away?

A Well, not that far.

Q How far?

A Well, the control in the South Flying "M" field is offsetting those two sections, there are two wells offsetting,

one well offsetting Section 24, the BTA No. 1 FMS and one well, a dry hole, drilled by Shell, Shell registered two offsetting Section 25. Direct offset again to the east. The SRR field, there are two wells in Section 23 which is approximately a mile from Section 24,in Section 26 there is no available control.

Q Well, this is simply your interpretation then in the absence of any definite control in Sections 24 and 25, is that right?

A It's my interpretation, yes, sir.

Q Now, I believe the gist of your testimony was that all of the 80 acres, the Southeast of the, the South Half of the Southeast of 24 would be productive?

A Yes.

Q On account of the permeability that one well would effectively and efficiently drain that 80, is that right?

A Well, the permeability also goes out with the porosity and I'd anticipate poorer permeability in the western location than I would in the eastern location. But all of the acreage under the, all the oil under the 80 acres I anticipate has some porosity and permeability in the reservoir.

Q Is it your testimony that one well would effectively and efficiently drain 80 acres?

A Yes.

Q Then would not a well located at the standard location in the South Half of the Southeast 24 drain that 80?

A It would be tighter porosity and tighter permeability and therefore it wouldn't drain it as well as a well located on the eastern part of that 80.

Q But your testimony is that it would eventually drain it. It might take a little longer?

A Probably, yes. It normally has good permeability.

Q Now, referring to your Exhibit No. 4, that's the isopach map, I notice that you show in Section 25 there to be in the Northeast Quarter of the Northeast Quarter of 25, there's no sand thickness at all, is that right?

A This is a limestone --

Q I mean pay thickness.

A Well, there's no control. That's a shallow dry hole there.

Q That's right, there's no control in Section 25 or 24 for this isopach map?

A No, it was projected.

Q That's right. This is your interpretation?

A Correct.

Q Now, does Hanks own the Northeast Northeast of 25, the lease on it?

A I believe he does. I have heard, again this is second hand, I heard a deal was made with Mr. Ruwwe and Mr. Holder on that acreage. Mr. Hanks has pruchased it I think.

MR. NUTTER: Mr. Kellahin.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. LeMay, going back to this Exhibit No. 4, you show a four foot net pay on hour isopach?

A Correct, on the Shell Richardson No. 2.

Q And also as to your proposed location?

A Oh, I believe I called that 5, but we're interpreting it.

Q Well, roughly.

A Yes.

Q That's interpretative and a foot more or less, you couldn't judge that, I'm sure, could you?

A No, it would be slightly more porous but I predicted it to be slightly updip from the Shell Richardson, that was my controlling factor.

Q Are you familiar with the completion on the Shell Richardson No. 2?

A They did not have a completion attempt on that well.

Q They had a drill stem test?

A They had a drill stem test, correct.

Q Do you know what it showed?

A Yes, it showed approximately a thousand feet of fluid, 900 and some, 75 feet of slightiy gas cut mud and 500 feet, I think, of sulphur water and 390 feet of mud. They did have a pressure drop from initial to final shut-in pressure and those factors prompted them to abandon the hole without a completion attempt.

Q That would indicate a rather poor permeability there, wouldn't it?

A Yes, I would say it would.

Q From the point of view of a geologist, wouldn't you call that a dry hole as far as practical purposes, you couldn't produce it?

A In normal formations I would but there has been such recent developments with the installation of Kobe pumps on these wells that I would be afraid to walk away from that well. For instance, the BTA re-entry, the well that was drilled by Union Texas Petroleum up in Section 19, SMF No. 2, that well was drill stem tested, I think, 2500 feet of water with some oil and gas cut mud and then pipe was set and it produced salt water and they walked away from it and now that well was re-entered and again the same interval perforated and a Kobe pump installed and the water decreased and oil increased with time. So as a geologist I would certainly not recommend walking away form an offset well in the field that

produces in the Bough "C" without a completion attempt if it showed they have some degree of porosity and permeability.

Q Well, you will have to admit that Shell didn't feel the same way.

A No, they did not, that's correct.

Q As I understand, your trapping mechanism here is the porosity and permeability pinchout, is that correct?

A That is correct.

Q If your porosity pinches out, then there isn't any oil, isn't that correct?

A Correct.

Q So on the western side there would be considerably less oil in your proposed drilling tract than there would be on the east?

A That is correct.

Q Actually on your Exhibit No. 6, Mr. LeMay, you show your calculations on your economics for your proposed location as being based on ten feet of net pay?

A Correct.

Q Actually your net pay for the drilling tract would be considerably less than ten feet, would it not?

A That is correct. That is why I called that recovery per well, because your 80-acre drainage pattern would naturally overlap other offset operators, as would other operators

overlap your 80 if the standard location was drilled.

Q And your overlapping in this instance would be on the BTA acreage and perhaps some Shell acreage?

A On the Shell?

Q Yes. Well, to the south, the Union of Texas.

A Oh, yes. Yes, the drainage area would encompass part of the other offset operators' acreage as would the other way around if it was drilled over there to the west.

Q Well, you are aware, of course, that this pool has been spaced on 80-acre spacing, are you not?

A Correct.

Q You didn't participate in the hearing at the time these rules were established?

A I did not, no.

Q At that time did you know that the Applicant, BTA, recommended flexible well locations?

A I did.

Q And the Commission, in its wisdom, decided against flexible well locations and established fixed locations based on the finding that this would better protect against drainage and protect correlative rights?

A Well, the reasons for their granting, I don't think, was correlative rights as well as efficient drainage of the reservoir.

Q Efficient drainage of the reservoir. But you are recommending they don't follow this spacing pattern?

A In this particular location I think Mr. Hanks would be at great disadvantage if he drilled a western location because the offset operators over there, the ones you mentioned, BTA and Union of Texas would get some of his oil because the best part of his oil is over on the eastern end of the 80.

Q Mr. LeMay, are you familiar with the statutes in New Mexico which required the Commission to so space and permit the development of wells to enable each operator to recover the oil and gas underlying his tract?

A Correct.

Q Actually you would be recovering oil from a tract not under your tract, oil from an adjacent tract, would you not?

A I don't see that as much as you do, sir. The locations here, you have the township line running down. You are butting up against a current producer over there which has been draining some of the oil under the Hanks 80, and I think that's kind of a standoff there. Well to well you just drain to your border line without going into very sophisticated engineering, which I have not done.

Q YOu have assumed that you are going to recover oil

from ten feet of net pay?

A Correct.

Q But you don't have ten feet of net pay under your tract?

A Correct.

Q Would you be willing to take a reduced allowable in the event this well location is permitted?

A I can't speak for Mr. Hanks. I am just an expert witness. I would assume he would be at a tremendous disadvantage to take a reduced allowable. He's not requesting it.

MR. KELLAHIN: Thank you, Mr. LeMay.

MR. NUTTER: Are there any further questions of the witness? Mr. Stevens.

REDIRECT EXAMINATION

BY MR. STEVENS:

Q Mr. LeMay, you testified that the west well would drain the 80-acre tract in response to a question of Mr. Ruwwe. Would this drain the 80-acre tract of the amount of oil that you calculate to be under that tract with other wells producing in the field?

A I don't understand that question.

Q I will rephrase the question. You have testified that one well on the western 40 acres would drain the 80-acre tract in response to a question from Mr. Ruwwe.

A Yes, over a long period of time.

Q If the other wells completed in the field, as long

as they produced in competition with that well in the western 40, would you consider that the western well would drain the oil under the 80-acre tract?

A I think we're speaking of a theoretical situation, if no other wells were there and the western well were drilled it would eventually drill the 80 acres. However, you've got competition for all the oil in the field with good permeability where you have eight, ten feet, twelve feet of porosity, you are having offset operators compete for the well on your tract and they would drain some of the oil under the East Half of the 80-acre tract. That is the subject 80-acre tract. I don't think this well over to the west would have both the time to drain it and it would be in competition with other wells in the field which would be draining it.

Q Would you consider that the western well would remain on top allowable as long as the other wells in the field?

A No, I would not.

Q What is your basis for that?

A Well, the thinner pay and the fact that because the Shell Richardson was slightly tight in both porosity and permeability, four feet of pay with decreased permeability; because of the pressure drop on the initial final shut-in pressures on the drill stem test, I would assume that it

would probably not come in top allowable. Top allowable well in the Bough "C" is moving quite a bit of fluid and it takes excellent porosity and permeability to do this. I would not anticipate a top allowable well to start with.

MR. STEVENS: We have no further questions, Mr. Examiner.

RECROSS EXAMINATION

BY MR. NUTTER:

Q Mr. LeMay, I want to ask you this: We've got your testimony in the record that the average field well has 11 feet of pay.

A Correct.

Q And the average well in the field has 80 acres dedicated to it.

A Correct.

Q Therefore, the average well has 80 acres of 11 feet?

A Correct.

Q Now, if we assume that you've got 80 acres here, which I believe is correct, and we take your own contour figures, would it be unreasonable for the Commission to determine how many feet of pay you have over 80 acres and make a comparison of the acre feet that you have got in your tract with 80 acres times 11 feet of pay being the field average, and using those figures, arrive at a proportionate allowable

which would be assigned to the well to be drilled at your proposed location? Would that be unreasonable?

A I don't think it would be unreasonable at all, Mr. Examiner. I think this is probably an excellent way to go about allocating the allowables. My question would be, would this be a standard practice in future wells or would this only just apply to the application?

Q Well, I can assure you that it has been standard practice in the past to adjust allowables very frequently in the case of unorthodox location.

A I know it has.

Q There's specific provisions in the rules for this.

A It would seem to me to be reasonable.

Q We would start with the extreme southwest corner of your tract, having zero feet of pay according to your contour map.

A I realize that.

Q And work east-northeast and actually get past a ten-foot line there.

A It would seem to me in doing that, three wells are currently in the field averaging 11 feet, that this seems to be, as shown on my map, the maximum porosity trend. In using the ratio that you are talking about adjusting the allowable over the 80-acre tract for the average, I think the average is

going to be reduced in the future, so that just because this looks like the fair way, the porosity fair way, so I would say 11 feet, although it's the field average today, probably won't be that way in the future and therefore, of course, once you get that, unless it would be constantly readjusted, according to the average, it would be a slight inequity in that regard.

Q It might have to be if someone else sought an unorthodox location, but if they were drilling on a standard location you would have to assume that any well on a standard location would be entitled to a top allowable if it could make top allowable, whether it had five feet or fifteen feet?

A Right, but the adjustment of the allowable, there would be no further adjustment of the allowable on that 80-acre tract pursuant to future development wells which might bring down the average, is my point. It would not be under constant review, it would be set and then that would be the allowable for the future.

Q Well, we would have to make a comparison on what we know today?

A Today, yes.

Q I don't know if we would adjust it for the future. We might be bringing the wells' allowables up for recomputation

every time a well was completed.

MR. NUTTER: Are there any further questions of Mr. LeMay? He may be excused.

(Witness excused.)

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

MR. STEVENS: Nothing further.

MR. NUTTER: Does anyone have anything further they wish to offer in Case 3612?

MR. HINKLE: We have one witness.

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

(Witness sworn.)

JOHN RUWWE

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, please.

A My name is John Ruwwe, Midland, Texas.

Q Are you a graduate geologist?

A Yes, sir, I am.

Q Have you previously testified before the Oil Conservation Commission?

A Yes, sir, I have.

Q Did you testify in connection with Case No. 3559, which is the case under which special field rules were adopted that have been referred to here?

A I did, yes.

Q Are you familiar with Order No. R-3228 which has been issued by the Commission in that case?

A Yes, sir, I am.

Q Now, in connection with your testimony in the previous case, No. 3559, under which special field rules were provided, did you introduce an exhibit in that case?

A Yes, we introduced this exhibit here, I believe.

Q Refer to your Exhibit No. 1 and explain to the Commission what it is and what it shows.

A This plat shows, in my opinion, the strike established by the drilling of the Union Texas well and the BTA well, and in this respect I disagree with Mr. LeMay very vigorously inasmuch as the strike is established in a northwest-southeast direction and a location at a regular location in the Southwest of the Southeast of 24, in my opinion, would be just as good or possibly better than the BTA well. In other words, we have no control to the west and in Mr. LeMay's maps he has swung this to the north with no control and I think has made an assumption, a positive assumption on an intangible

situation, because according to my figures, or my geology here, the strike could extend out considerably farther than is shown on Mr. LeMay's maps and there is no reason to swing it in any direction at all.

In other words, all we can use is the control we have right at the present time and that pretty well establishes the strike in this direction. You can swing that strike any way that you want in there and I think that a location and a regular location would actually be a better location than the one in the southeast. I think you would get more pay really, but I mean that is subject to argument and that was our contention in setting up original 80-acre spots on this thing.

I think it would drain the reservoir much more efficiently and I see no reason at all to change any of the spacing because there's no reason to do it.

Q Now, since the order has been entered in R-3228, has anything occurred which would change your previous testimony in regard to 80-acre spacing?

A No, sir, nothing has changed. It's just exactly the way it was before.

Q At the time you previously testified you were the owner, I believe, with Mr. Holder, of the working interest in the Northeast Quarter of Section 25, is that correct?

A That is correct.

Q Has there been any change in that ownership?

A We have since sold that lease to Mr. Hanks and have retained an interest or override in the lease.

Q Did you discuss with him, or did you have any understanding with him about change in the field rules?

A It was our understanding that he would drill a standard location in the Southwest of the Southeast on a farmout from Shell where they're getting this 80 acres, and the whole deal was predicated on him drilling that well there, I mean it was understood that he would drill there. It was quite a surprise to us when he decided to change the location.

In other words, when they took the deal they originally thought that was just as good a location there when they got the farmout from Shell. So it was a surprise to us when they wanted to change the field rules.

Q That deal was made after the field rules were established?

A That is correct.

MR. HINKLE: That's all.

MR. NUTTER: Any questions of Mr. Ruwwe?

MR. HINKLE: I might ask one other question.

Q (By Mr. Hinkle) Did you retain a royalty interest in connection with your deal with Mr. Hanks?

A Yes, sir, we maintained an override on the lease.

Q What is it?

A One-eighth override.

MR. HINKLE: That's all.

CROSS EXAMINATION

BY MR. STEVENS:

Q Are you familiar with the general strike in the Bough "C" level in the northwest portion of the Tatum Basin?

A I am, but in this particular instance you can swing the strike locally any direction you want to swing it. Generally on a regicnal deal it is general but you cannot assume locally that the strike is going to swing this way or swing that way other than the control you have out here. I mean this is a local situation.

As I said before, it can go out two miles before it swings or it could swing this way or swing that way, but there is no control here and it is strictly a local situation. I think you have got to use the control that we have right here in determining what we have right at this particular situation right here.

Q Is the general strike, is it north-south in the northwest protion of the Tatum Basin?

A Well, I think it's generally northwest-southeast, but it can swing and wander around.

Q In your contract with Mr. Hanks in your sale to him, did you provide a provision wherein he agreed to drill in the Southwest-Southeast Quarter of Section Twenty --

A No, it was a verbal understanding that he would drill there and he took the lease or farmout from Shell predicated on the standard location because he has an obligation to drill and if this is not granted why he's obligated to drill there and he took it from Shell on that basis.

Q Mr. Ruuee, you and Mr. Holder have recently had a well location staked in the Northeast -Northeast of Section 25?

A 25.

Q Will you give us the footage from the lease line of that location?

A Before the field rules were established the well was 330 from the north and east but that was before any field rules were established. That was when the BTA had this well spotted 660 from the south and 330 from the east, I believe, and before any field rules were established, and since the field rules were established, BTA did not drill the well that they originally had staked there because of the field rules that were put up.

Q Do you know if that 330 spacing applies to any

Bough "C" field which was spaced on 80-acre spacing or even on 40-acre spacing that you know of personally?

A I don't recall off-hand, the reason we staked a 330 there at that particular time was to offset the well that BTA had staked up here; in other words, we weren't sure whether we were going to drill it at that time or not, but before the field rules were established we wanted to get a well location in there to offset the BTA well which was already staked, but since the field rules came in we dropped all plans to drill and I think BTA did the same thing to conform to the regular spacing that was set up.

Q Could you tell us, did you stake this 330 location in order to more efficiently drain the reservoir or to establish a more favorable geological position on your tract?

A Frankly, we just wanted to stay close in to production. We had no real reason to stake a 330 other than the 660 actually. It was more of a protective measure. Actually we did not plan to drill at that particular place. It was more of a protective measure, I say, to get a well location approved before the field rules went in if we so desired to drill. But we actually did not plan to drill.

Q Did you request an exception to the rules which BTA proposed for this 330 location?

A No.

Q Of course, the rules that were adopted, you wouldn't have needed an exception but you testified --

A There were no field rules set up when we staked the location.

Q Right.

MR. STEVENS: I have no further questions.

MR. NUTTER: Does anyone have any questions of Mr. Ruwwe? He may be excused.

(Witness excused.)

MR. HINKLE: We offer Exhibit No. 1.

MR. NUTTER: John Ruwwe's Exhibit No. 1 will be admitted in evidence.

(Whereupon, John Ruuee's Exhibit No. 1 was offered & admitted in evidence.)

MR. NUTTER: Does anyone have any further testimony to offer in this case? Does anyone have any statement they wish to make? Mr. Kellahin.

MR. KELLAHIN: If the Examiner please, BTA Oil Producers was the Applicant in Case No. 3559 which resulted in the adoption of Order No. R-3228, establishing field rules for the South Flying "M" field. At that time BTA did propose flexible well locations, it was opposed by Mr. Holder and Mr. Ruuee and as a result of the hearing the Commission adopted limited well locations based upon a finding,

Finding No. 4, that the temporary special rules and regulations should provide for limited well locations in order to assure orderly development of the pool and to protect correlative rights.

As has been stated here, at the time of the hearing both BTA and Holder and Ruwwe had staked 330 locations, BTA in Section 24, at that time they held the acreage which is the subject of this application, and the other location was in the northeastern part of Section 25. At the time of the hearing BTA voluntarily said that they would withdraw that location and not drill at a 330 location. Subsequent to that time they did trade that particular acreage for three other locations in Section 30 and at the present time a well is being drilled located 1955 feet from the north and east lines in Section 30 which should give some additional information.

In that connection it would appear to me that since the Applicant here today does hold the acreage in the northwest part of Section 25, and have a standard location located very close to the point on the structure which they contend they should drill in Section 24, they should drill that well first and acquire what information is available prior to going ahead and drilling at an unorthodox location in Section 24.

The information that would be gained in Section 25

would certainly establish or refute the testimony that has been given here today, all of which, of ccurse, is admittedly based on interpretations. The BTA takes the position that at the present time there is no control to the west. We agree with the testimony that was offered here by Mr. Ruwwe, it is reasonable to presume that an orthodox location would be productive and the well should be drilled at that location.

In addition to that, some testimony has been offered here in connection with economics and I cannot help but observe that they are predicating productive acreage on a net isopach pay on their Exhibit No. 5. In any event, they are predicating productive acreage on their location on some four to five feet of net pay. Now, four feet of net pay is shown on their exhibits for the Shell Richardson No. 2 well which was not productive. This would indicate then that the western portion of the acrage in Section 24 would also not be productive if we assumed that their contours and their interpretations are correct.

Now, also based on their own interpretation they have offered in evidence economic which is predicated on an assumption of ten feet of net pay throughout their 80-acre

location and admittedly they do not have ten feet of net pay, none of their exhibits show ten feet of net pay, and at best it would appear to us they have a 40-acre unit they could effectively dedicate to the well.

If the well location is approved we recommend that the allowable be cut to a 40-acre allowable, or in the alternative that some computation be made to adjust the net pay acrage factor to prevent drainage from the offsetting well, for we feel that all of the evidence offered here showed that their economics and their predicated recovery, as shown by their Exhibit No. 6, is based on the assumption they are going to drain somebody else's oil. They don't have it under their own tract. Thank you.

MR. NUTTER: Mr. Hinkle.

MR. HINKLE: No statement.

MR. NUTTER: Mr. Stevens.

MR. STEVENS: Nothing further.

MR. NUTTER: If there is nothing further in Case 3612, we'll take the case under advisement and take a fifteen-minute recess.

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

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

Witness my Hand and Seal this 27th day of July, 1967.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3612 heard by me on 7/12, 1967.

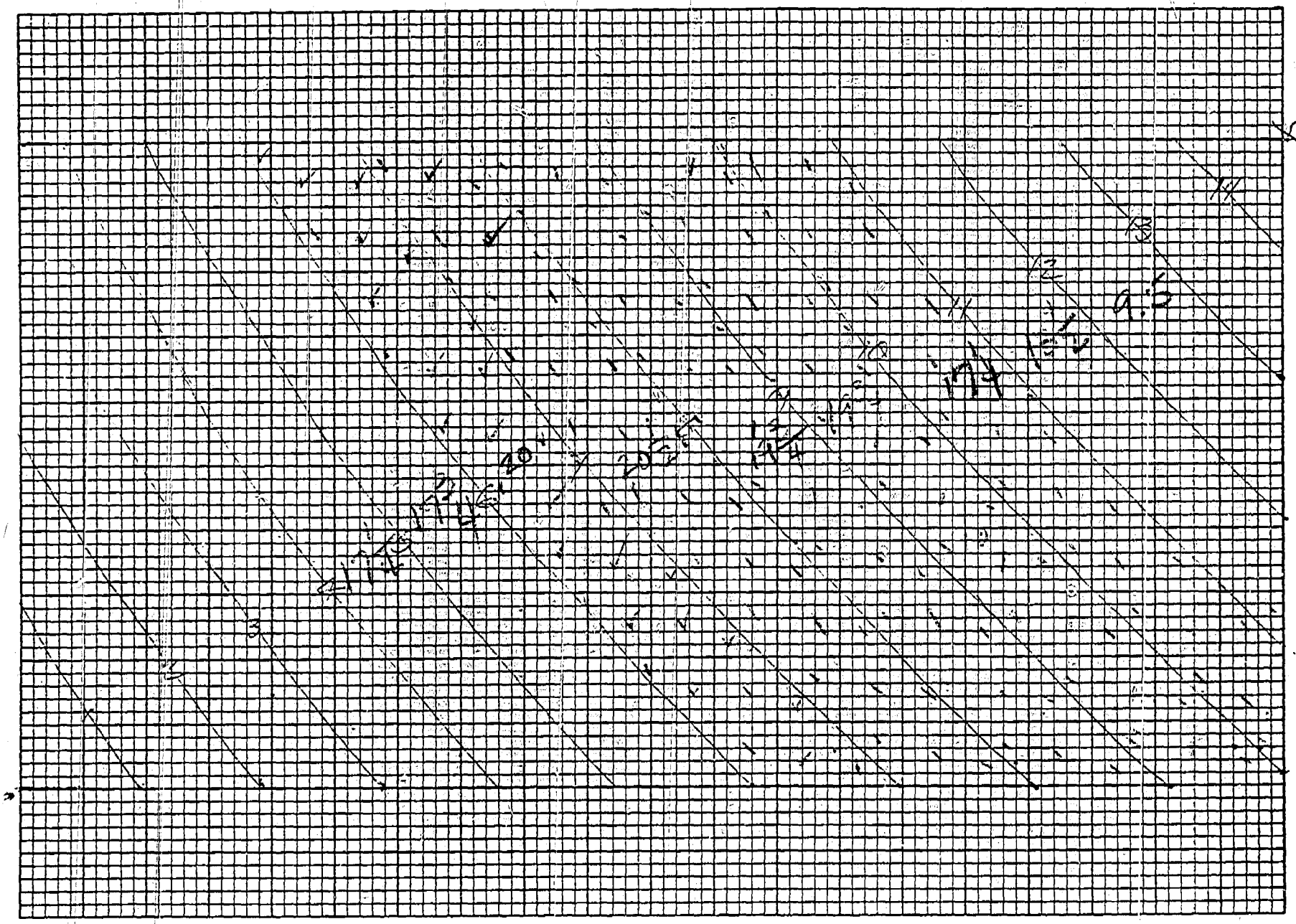
....., Examiner
New Mexico Oil Conservation Commission

Thickness Net Ft	Acres	Net Acre Feet
.5	2.5	1.25
1.5	7.5	11.25
2.5	12.0	30.00
3.5	16.0	56.00
4.5	17.25	77.63
5.5	17.75	97.63
6.5	20.0	137.15
7.5	20.5	153.75
8.5	19.75	167.88
9.5	19.75	187.63
10.5	17.25	181.13
11.5	13.5	155.25
12.5	9.5	118.75
13.5	5.25	70.88
14.5	1.5	21.75
		1467.93

11
80
880

11
200
2200

$$\frac{1467.93}{2200.00} \times 100 = 66.72\%$$



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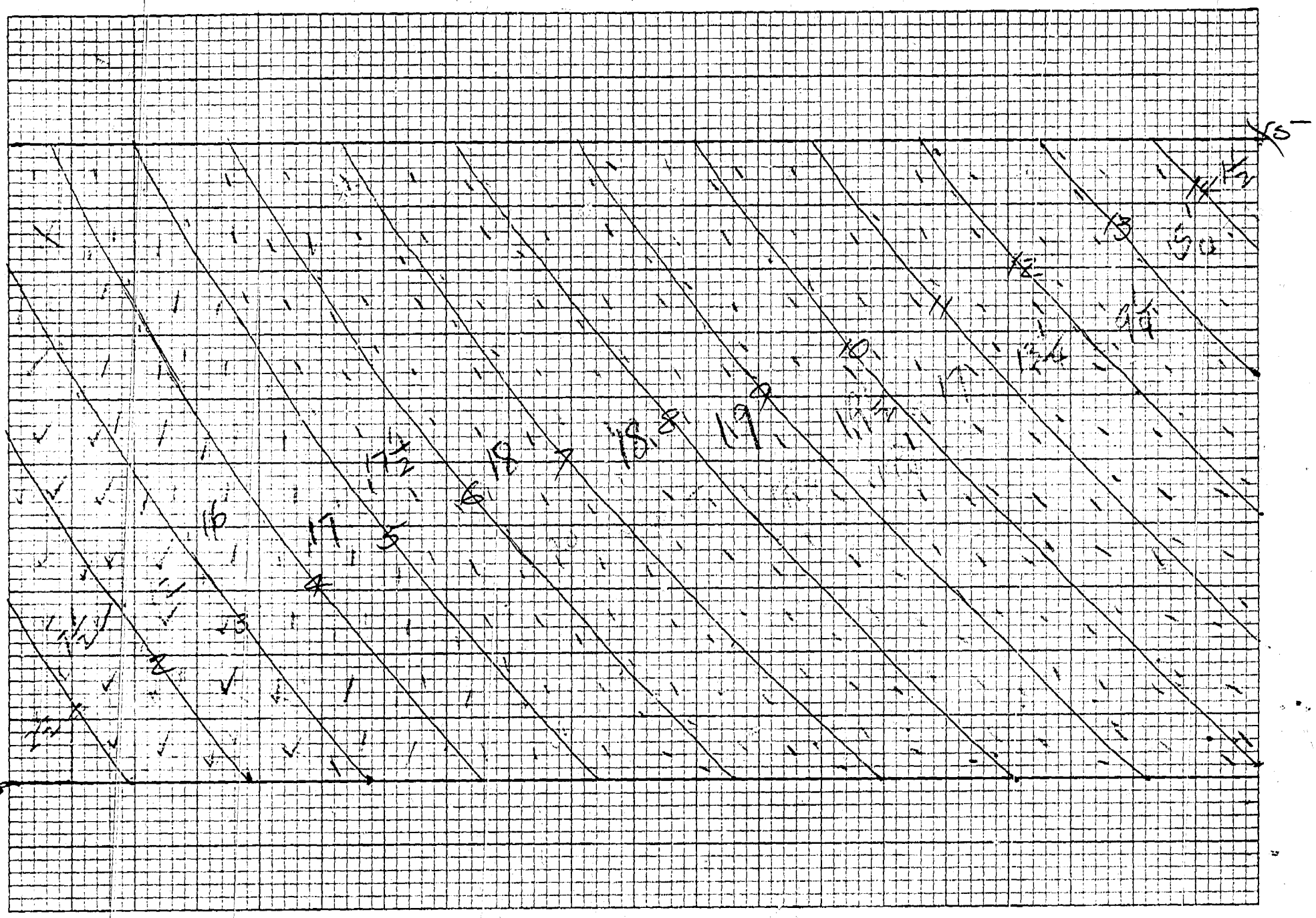

ECONOMICS OF BOUGH "C" DEVELOPMENT
IN THE
SOUTH FLYING "M" FIELD
LEA COUNTY, NEW MEXICO
CASE NO. 3612
EXHIBIT NO. 6

INCOME DATA

Gross Income ($/Bbl)	2.95
Royalty @ 12.5%	.37
Tax 6.7%	.20
Operating Costs ($/Bbl)	.30
Net Income ($/Bbl)	2.08

RECOVERY PER WELL (80 acres)

Standard Location

$\frac{7758 \times .07 \times .80}{1.65} \times 5' \times 40\% = 526$ bbls/Acre = 42,120 bbls/80 Acres

Proposed Location

$\frac{7758 \times .07 \times .80}{1.65} \times 10' \times 40\% = 1{,}053$ bbls/Acre = 84,240 bbls/80 Acres

Average Field Well

$\frac{7758 \times .07 \times .80}{1.65} \times 11' \times 40\% = 1{,}158$ bbls/Acre = 92,640 bbls/80 Acres

ECONOMICS

	Standard Location 42,120	Proposed Location 84,240	Average Field Well 92,640
Reserves Per Well (Bbls)			
Gross Income ($/Bbl)	2.89	2.89	2.89
Net Income ($/Bbl)	2.08	2.08	2.08
Cost of Flowing Completion ($)	125,000.	125,000.	125,000.
Estimated Net Income ($)	87,610	175,522.	192 691.
Return on Investment (%)	0.70	1.40	1.52

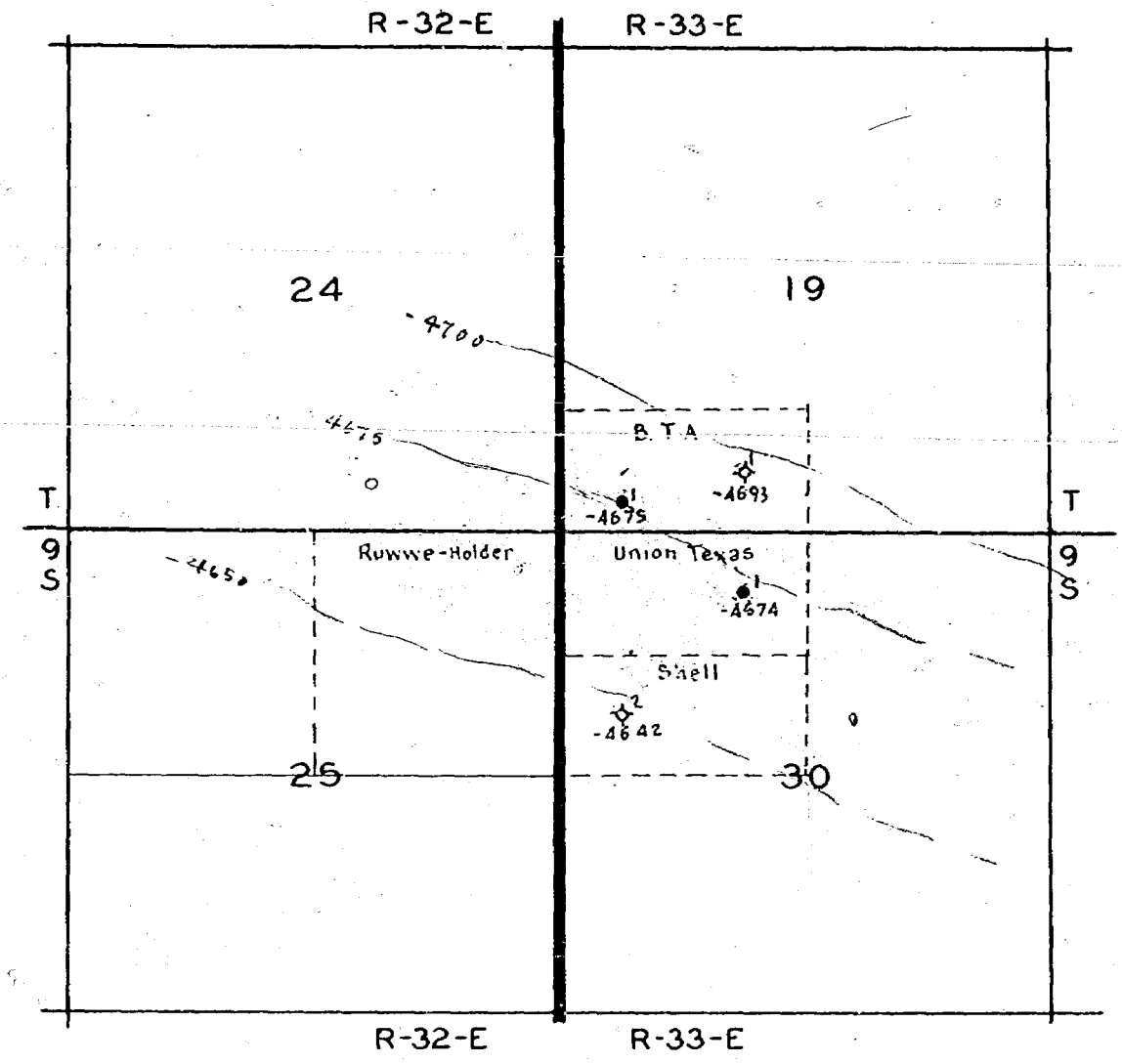

EXHIBIT NUMBER

Ruwwe 1

CASE NO. 3612

JOHN W. RUWWE
MIDLAND, TEXAS

LEA COUNTY, NEW MEXICO
SECTION 25 T-9-S R-32-E
PORTION OF
F.M.S. PENN. FIELD

SCALE 1"=2000'