

CASE 5081: Application of MESA
PETROLEUM FOR A DUAL COMPLETION
AND SPECIAL POOL RULES.

NEW

CASE No.

5081

Application,

Transcripts,

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 26, 1974

EXAMINER HEARING

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)
IN THE MATTER OF:)
)

Case 5081 being reopened pursuant to)
the provisions of Order No. R-4657,)
which order established temporary)
special rules and regulations for the)
North Shoe Bar-Wolfcamp Pool, Lea)
County, New Mexico, and)
Case 5082 being reopened pursuant to)
the provisions of Order No. R-4658,)
which order established temporary)
special pool rules for the North)
Shoe Bar-Strawn Pool, Lea County,)
New Mexico.)
-----)

CASE NO.
5081
5082

BEFORE: Daniel S. Nutter, Examiner

For the New Mexico Oil
Conservation Commission:

Thomas Derryberry, Esq.
Legal Counsel for the
Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant:

Paul Eaton, Esq.
HINKLE, BONDURANT, COX
& EATON
Hinkle Building
Roswell, New Mexico
and
Don Dent, Esq.

CASE 5081-5082

Page.....2.....

I N D E X

L. M. CARNES

PAGE

Direct Examination by Mr. Dent

4

Cross Examination by Mr. Nutter

15

E X H I B I T S

Applicant's Exhibits Nos. 1 through 8

18

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MR. NUTTER: The Hearing will come to order, please. The first case this morning will be Case 5081.

MR. DERRYBERRY: Case 5081. In the matter of Case 5081 being reopened pursuant to the provisions of Order No. R-4657, which order established temporary special rules and regulations for the North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico.

MR. EATON: Paul Eaton of the firm of Hinkle, Bondurant, Cox and Eaton of Roswell, and Don Dent, Attorney for Mesa Petroleum Company, representing the Applicant, Mesa Petroleum Company. Mr. Dent will handle the examination.

MR. NUTTER: Are there other appearances in this case? Will you proceed, please?

MR. DENT: Mr. Examiner, we are also appearing on Case to82 and our testimony will be representative of that case by the same witness and the same exhibits. Can we consolidate those for the purpose of this short bit of testimony?

MR. NUTTER: We will call now, Case No. 5082.

MR. DERRYBERRY: Case 5082. In the matter of Case No. 5082 being reopened pursuant to the provisions of Order No. R-4658, which order established temporary

special pool rules for the North Shoe Bar-Strawn Pool, Lea County, New Mexico.

MR. NUTTER: We have one appearance in this case. Are there appearances in Case No. 5082 other than we had before?

Would you proceed, Mr. Dent? The cases will be consolidated.

MR. DENT: Mr. Examiner, I have one witness I would like to call at this time, Mr. Les Carnes.

L. M. CARNES

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

DIRECT EXAMINATION

BY MR. DENT:

Q For the record, will you please state your name, by whom you are employed and in what capacity?

A Les M. Carnes, employed by Mesa Petroleum Company as Senior Reservoir Engineer in Amarillo, Texas.

Q Mr. Carnes, have you made a study of the North Shoe Bar-Wolfcamp Pool and the North Shoe Bar-Strawn Pool for purposes of determining whether or not the temporary field rules of 160-acre spacing should be continued or made permanent?

CARNES-DIRECT

CASE 5081-5082

Page.....5

A Yes, I have.

Q Have you prepared or had prepared under your supervision certain exhibits to be presented at this time?

A Yes, sir.

Q I hand you what has been marked and handed to the Examiner, Mesa's Exhibit No. 1. Would you please refer to that exhibit and explain what you show there?

A Exhibit 1 is a structure map drawn on top of the Strawn formation in the North Shoe Bar Field. It depicts the Strawn reef structural trends in the area, and it shows a high around the Mesa Hillburn and Wiser Wells which are both Strawn wells. The map also shows Mesa 100 percent acreage in light yellow, and Mesa partial working interest in the light orange. It shows the Wolfcamp wells to be in orange color, coded on the map, and Strawn wells in green. The map shows that Mesa operates three Strawn wells, the Hillburn, the Wiser and the Lyster, and three Wolfcamp wells, the Gilmore, Chambers and Skelly State.

Q For the record, will you please identify where the Hillburn, Lyster and Wiser wells are located?

A Okay. The Hillburn Well is located in the northwest quarter of Section 13, Township 16 South, Range

CARNES-DIRECT

Page.....6.....

35 East. The Wiser Well is located in the southwest quarter of Section 13, the same township and range. The Lyster Well is located in the northeast quarter of Section 13, the same township and range.

Q Give the location of the Gilmore and Chambers Wells in Section 7?

A The Gilmore Well is located in the southwest quarter of Section 7, Township 16 South, Range 36 East. The Chambers Well is located in the southeast quarter of Section 7, same township and range.

Q Is Mesa presently drilling a well in Section 14?

A Yes, we are.

Q What is the status of that well?

A That well is drilling at about 6500 feet as of yesterday morning. It is located in the southwest quarter of Section 14, Township 16 South, Range 35 East.

Q Have you prepared an isopach map of this area?

A Yes, sir.

Q Refer to what has been marked as Exhibit 2 and explain what you show on that exhibit?

A Exhibit 2 is a Strawn-isopach pay map. It depicts the hydrocarbon bearing net pay in the Strawn formation. It also shows in there areas that are bracketed,

and these areas depict what we now consider to be affected by the production from these three Strawn wells.

Q You refer to a bracketed area. Is that by the dashed red lines shown on this exhibit?

A Yes, it is.

Q What is the significance of that area, again?

A That shows what we estimate to be the area affected by the production from these three Strawn wells at this time.

Q How did you determine that area?

A In the case of the Strawn, it was based on the performance and extrapolated ultimate recovery from the Strawn which we will later get into on another exhibit.

Q Will you refer to Exhibit 3 and explain what data is shown there?

A Exhibit 3 is simply initial completion data tabulations showing pertinent completion data for all six wells, the three Wolfcamp and the three Strawn wells mentioned.

Q Have you prepared any pressure history data to show the Commission?

A Yes, we have.

Q Will you please refer to what is marked as

CARNES-DIRECT

Page 8

Exhibit 4 and review your pressure history of the North Shoe Bar-Strawn Field well?

A Exhibit 4 just shows the pressure history related to time, starting with the first well in the Strawn reservoir in the field. That was Hillburn No. 1, and the first pressure was the DST pressure and we feel this reflects initial Strawn reservoir pressure as 4274 PSIG at a datum of minus 7342. The date of that was September 7th, 1973. Later, on October 10th of '73, an extrapolated 72-hour build-up survey was taken, indicating the pressure to be 4248, slightly lower than the initial DST pressure, however, some test oil production had been recovered at that time.

Then, continuing on, it shows that our second well in the Strawn, the Lyster No. 1, on October 23 of '73, had a DST pressure of 4236, at the same datum of minus 7342.

It continues on and shows subsequent pressures to the completion of these first two wells. I would like to call your attention to the Wiser No. 1 pressure taken on June 10th, 1974. That was the first pressure taken in that well and it was only 3376 compared to the original pressure of 4274. No production had occurred from the

CARNES-DIRECT

Page.....2

Wiser at that time, the new well. This indicates that production from the Hillburn Well had affected that well and the pressure was somewhat lower by 800 or 900 pounds due to the pressure disturbance caused by the Hillburn Well.

Q Have you prepared certain production data on Exhibit 5?

A Yes, I have.

Q Would you please refer to Exhibit 5 and explain what you have shown by that group of curves?

A Exhibit 5 is a three-part exhibit showing the performance curves for the three Strawn wells in this reservoir. The first page and the first curve is an oil performance versus time with the GOR shown in the circles. It indicates that the Hillburn Well has recovered 99,000 barrels of oil as of November 1, 1974. The extrapolation is quite steep, but it is because -- what it appears -- we just extrapolated trend that had already been established. I feel that is a little too steep, but that shows that the ultimate recovery would be about 130,000 barrels of oil and 1.4 BCF of gas.

The next performance curve is on the Lyster No. 1 Well. It indicates accumulative recovery of 59,000 barrels of oil as of November 1, 1974, and an

CARNES-DIRECT

Page 10

estimated ultimate recovery of 110,000 barrels and 1.2 BCF of gas.

The third curve is for the Wiser No. 1 Well. This has been a low permeability well and it has only recovered 8700 barrels with an estimated ultimate recovery of only 20,000 barrels.

Q Mr. Carnes, based upon your reservoir study and production data and pressure distribution curves which you have presented by these exhibits, what is your recommendation as to the spacing of the North Shoe Bar-Strawn Field?

A I would recommend that 160 acres would be the proper spacing for these wells.

Q Is it your opinion that one well will effectively and efficiently drain an area of 160 acres?

A Yes, it is. Let me say something further here. That is based, then, on the production performance that I have just related, the estimated ultimate recovery compared to volumetric estimates of recoverable oil in stock tank barrels per acre-foot divided into the ultimate recovery I have already indicated, would give you a drainage of about 230 acres for the Lyster Well and for the Hillburn, about 200 acres, and that is what is shown

in Exhibit 2 in those brackets.

Q Refer now to what has been marked as Mesa's Exhibit 6 and explain what you have shown in that exhibit?

A Exhibit 6 is a Wolfcamp isopach map showing the net Wolfcamp pay. It shows the pay ranges from zero to about 40 feet in thickness, and a pretty narrow Wolfcamp reef reservoir.

The dashed red lines in the upper right of the map and the lower left depict what we feel has been affected by production from Mesa's three Wolfcamp Wells, the Gilmore, the Chambers and the Skelly State No. 1. This area is about 697 acres, and that was based on a study done in June of a material balance nature. We had taken pressures subsequent to initial pressures which we will get into in a little bit, and we determined the oil-in-place and then calculated the area.

Q Refer to your next exhibit which is No. 7, and review the pressure history as it relates to the North Shoe Bar-Wolfcamp formation?

A Exhibit 7 is a pressure history of the Wolfcamp in the North Shoe Bar Field. It shows that the original pressure was 4097 pounds as determined from the DST measurement on the Skelly State No. 1, December 23, 1972.

CARNES-DIRECT

Page..... 12

This pressure was also measured on DST in the second well, the Gilmore No. 1, on December 10, 1973, nearly a year later. The reason for the same pressures was the distance between the two wells and the limited production from the Skelly State No. 1. The wells were shut in for some time waiting on a gas connection.

Q Have you also prepared a set of production curves as relates to the wells completed in the Wolfcamp?

A Yes, I have. It is Exhibit 8.

Q Please explain that exhibit.

A It is a three-part exhibit showing the production performance for the three Wolfcamp Wells, the Skelly State No. 1, the Gilmore No. 1 and Chambers No. 1. The first sheet is for the Skelly State No. 1, which indicates an ultimate recovery of 13,500 barrels based on the extrapolated performance and a cumulative recovery to November 1, '74, of 11,500.

The second page reflects the production behavior and extrapolated ultimate performance for the Gilmore No. 1. It indicates an estimated ultimate recovery of 164,000 barrels of oil with accumulative recovery as November 1, 1974, of about 77,000 barrels.

The last curve is for Chambers No. 1, which

shows an estimated recovery of 92,000 barrels of oil with a cumulative recovery to November 1, 1974 of 57,000 barrels.

Q Based on these data and your study of the Wolfcamp formation, do you likewise have a recommendation to the Commission as to the spacing in that formation?

A Yes, I do. I would recommend 160-acre spacing for the Wolfcamp formation also.

MR. DENT: Mr. Examiner, that concludes our direct evidence, and on behalf of Mesa, we would like to recommend that the Commission continue the 160-acre spacing order and that the temporary order be made permanent.

MR. NUTTER: Mr. Dent, Order No. R-4658-A, entered by the Commission in February of 1974, established a GOR of 4001 for the Strawn Pool and that is also the subject of this hearing today.

MR. DENT: We didn't know for sure whether it was or not. We also have recommendations as to that and I would like to direct our witness to it if it is within the scope of this hearing.

MR. NUTTER: Yes, sir, it sure is.

BY MR. DENT:

Q Mr. Carnes, would you refer to your production

CARNES-DIRECT

Page.....14.....

data curves which have been marked as Exhibit 5 and 8 and review the GOR performance, and also tell the Commission your findings and recommendations as to the GOR limitations.

A Exhibit 5 is that three-part production curve for the Strawn formation, and for the Hillburn No. 1 which is the first sheet of that exhibit, it indicates that the measured gas-oil ratio has increased from about 1300 cubic feet per barrel in April of '74, the date the well first went on stream and commercial oil was sold to just about 3001 in November. We feel like these gas-oil ratios are low because the solution gas-oil ratio from the fluid analysis study was about 2500 to 1, and that was the reason that we appeared in February of this year and asked for GOR relief from the state-wide 2001 to 1 up to 4000. Some of the problems might be that our measurements are not accurate. We are looking to that right now. Some of the gas was temporary as previous testimony in February will reveal. They are processing it through a plant, recovering the liquids from that gas.

The next exhibit, or the next curve of this three-part exhibit is for Lyster No. 1. It reflects a little bit more of an increasing GOR trend from a little over 1000 cubic feet per stock tank barrel to over 4000

at the present time.

The last curve is the Wiser No. 1. It indicates a similar GOR trend, increasing from about 1000 to 1 to a little over 3000 to 1.

Since we are conserving gas that is being sold, liquids are being recovered from it. We feel that there is no waste taking place. We still want to ask for a 4000 to 1 limit in gas-oil ratio, in view of the fact that the solution ratio is 2500 and current producing gas-oil ratios are in excess of 2000. That is for the Strawn reservoir.

Q What is the current productivity per day of the Hillburn, Mr. Carnes?

A We are not certain about its mechanical problem-free deliverability or productivity because we've got parafin problems that we are trying to cure. As you notice, about September, the well averaged nearly 400 barrels a day, but unknown to us, parafin was accumulating and acted as a choke in the well and the production dropped severely to a low of about a little over 200 barrels a day in October.

CROSS EXAMINATION

BY MR. NUTTER:

CARNES-CROSS

Page.....16

Q Is the well a flowing well?

A Yes. All the wells are flowing in the Wolfcamp and Strawn.

Parafin problems have created a measurement problem for us in determining the true productivity of the well. I feel that the well will probably make in excess of 300 barrels a day once we get permanent parafin control facilities set up.

Q Do you scrape the parafin in here or do you hollow out the well or what?

A We scraped it and we are going to try to install a continuous scraping device on a wire line. Our production people are working on that.

Q What is the productivity of the Lyster?
Apparently, it is around 160 barrels a day, is this correct?

A Yes. It was down to a low of 90 barrels a day in October. Not only did we have parafin problems, but we took an extended bottomhole pressure survey and it was shut in for several days, and that is the reason for the low point in October of '74. After the parafin had been cleaned up -- I think it was a partial clean-up -- for the first 20 days of November it averaged a little over 150 barrels a day. I feel that once we continually

clean the parafin out, we will have a productivity of between 200 and 250 barrels a day, but that's a guess. We've got about 2900 pounds of bottomhole pressure in that well, and initially, it flowed about as well as the Hillburn. Since it has about 1000 pounds higher pressure than the Hillburn, it also could be in the range of 300 to 400 barrels a day if we get the parafin problem cleared up.

Q Mr. Carnes, you mentioned that the solution GOR in the Strawn was 2500 to 1. What was the bubble point of this oil, do you know?

A In the Strawn, it was 3950.

Q So, the pressure has declined below the bubble point at this stage?

A Yes, sir.

Q And you expect this is free gas in the reservoir, then, that is being produced now?

A Some of it would be.

Q And the 4000 to 1 ratio that was adopted by Order No. R-4658-A is proposed to be continued in this pool?

A Yes, sir.

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

(Witness dismissed.)

MR. NUTTER: Mr. Dent, did you offer these exhibits?

MR. DENT: Mr. Examiner, at this time I would like to offer Mesa's Exhibits 1 through 8 in consolidated Cases 5081 and 5082.

MR. NUTTER: Mesa's Exhibits 1 through 8 in Cases 5081 and 5082 will be admitted in evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 8 were marked for identification, and were admitted into evidence.)

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

MR. DENT: I have nothing further, Mr. Examiner.

MR. NUTTER: Does anyone have anything they wish to offer in Case 5081 or 5082?

If not, we will take the cases under advisement.

CASE 5081-5082

Page 19

STATE OF NEW MEXICO)
COUNTY OF SANTA FE) SS.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Richard L. Nye
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5081-82 heard by me on 11/26, 1974.

Richard L. Nye, Examiner
New Mexico Oil Conservation Commission

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
November 13, 1974

EXAMINER HEARING

IN THE MATTER OF:)
)
)

Case 5081 being reopened pursuant to)
the provisions of Order N. R-4657, which) CASE 5081
order established temporary special)
rules and regulations for the North)
Shoe Bar-Wolfcamp Pool, Lea County, New)
Mexico.)

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil	William Carr, Esq.
Conservation Commission:	Legal Counsel for the Commission
	State Land Office Building
	Santa Fe, New Mexico

CASE 5081
Page.....2.....

MR. STAMETS: Call first Case 5081.

MR. CARR: Case 5081 in the matter of Case 5081
being reopened pursuant to the provisions of Order No. R-4657,
which order established temporary special rules and regula-
tions for the North Shoe Bar-Wolfcamp Pool, Lea County,
New Mexico.

Mr. Examiner we have received a request that this
Case be continued to the November 26 hearing.

MR. STAMETS: Case 5081 will be continued until
November 26.

I, RICHARD L. NYE, Court Reporter, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Richard L. Nye
RICHARD L. NYE, Court Reporter

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 5081,
heard by me on 11-13, 1977.
Richard L. Hamble, Examiner
New Mexico Oil Conservation Commission

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dearnley, meier & associates

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE ROOM, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
October 17, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Mesa Petroleum)
Company for a dual completion)
and special pool rules, Lea)
County, New Mexico)

Case No. 5081

BEFORE: DANIEL S. NUTTER,
Examiner

TRANSCRIPT OF HEARING

1 MR. NUTTER: Call Case Number 5081.

2 MR. CARR: Case 5081, Application of Mesa
3 Petroleum Company for a dual completion and special
4 pool rules, Lea County, New Mexico.

5 MR. HINKLE: Clarence Hinkle of Hinkle, Bondurant,
6 Cox and Eaton appearing on behalf of Mesa Petroleum
7 Company. We have two witnesses we'd like to have sworn.

8 MR. KELLAHIN: May the record reflect, Mr. Examiner,
9 Tom Kellahin of Kellahin and Fox is appearing on behalf
10 of R. L. Burns Corporation.

11
12 DENNIS CROWLEY,

13 was called as a witness and after being duly sworn,
14 testified as follows:

15 DIRECT EXAMINATION

16 BY MR. HINKLE:

17 Q State your name, your residence and by whom you're
18 employed?

19 A Dennis Crowley, Midland, Texas and I'm employed by
20 Mesa Petroleum Company.

21 Q What is your position with Mesa?

22 A I'm an exploration geologist.

23 Q Have you ever testified before the Oil Conservation
24 Commission?

25 A No, sir.

dearnley, meier & associates

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MR.NUTTER: How do you spell your last name?

WITNESS: C-R-O-W-L-E-Y.

Q State briefly your educational background and experience as a petroleum geologist.

A I received a Bachelor of Science Degree in petroleum and geology from the University of New Mexico in 1957. I was employed by the Superior Oil Company from 1957 until 1966 and worked in Albuquerque, Farmington and Midland, Texas. From 1966 until May of 1973, I was employed by Pubco Petroleum Corporation of Albuquerque, as an exploration geologist. From May of 1973 until the present, I've been employed by Mesa Petroleum Company as a petroleum geologist in Midland.

I'm also a Certified Professional Geologist Number 2495.

Q Have you made a study of the area which is involved in this case?

A Yes, I have.

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

A Yes, sir.

Q And they are the exhibits that have been marked as Exhibits 1, 2 and 3?

A Yes, sir.

Q Refer to Exhibit Number 1 and explain what it is and what

1 it shows.

2 A Exhibit Number 1 is a map of the Southwest Lovington
3 Prospect Area of Lea County, New Mexico, Township 16
4 South, Range 35 and 36 east, on a scale of one inch
5 to 2,000 feet.

6 Located near the center of the map is a red outline,
7 which is the Southwest Lovington Unit of which Mesa is
8 the operator. Mesa has a 70.3977 percent working interest,
9 Monsanto has 25.0568 percent working interest and Skelly
10 Oil, 4.5455 percent working interest.

11 The production that is shown on here is keyed to
12 the production legend where the production in the
13 Townsend Field is in blue, the B Bank is yellow and the
14 C bank is in green.

15 The structural contours are in black and are on
16 top of the Permian Wolfcamp Three Brothers Zone, which
17 is a correlatable stratigraphic unit that extends through-
18 out the shelf area of southeastern New Mexico.

19 These structure contours indicate a large structural
20 high centering or coming into parts of the southwest
21 Lovington Unit. A high here at Shoebar North, another
22 high down in the Shoebar Field, another high sitting
23 over here in Shoebar East.

24 The various banks for carbonate build-up which occur
25 in this Three Brother Zone are shown by the shaded areas

1 up here. Blue for Bank A, which is the lower strato-
2 graphic unit and is the main productive unit in the
3 Townsend Field. Orange shows the outline of Bank B,
4 which is the intermediate unit and it is productive here
5 at North Shoebar Field in this area. Bank C is the
6 youngest and uppermost of these carbonate banks or
7 buildup and is productive in a well here in the Shoebar
8 Field.

9 These lines merely delineate the areal extent of
10 these banks and they show that generally, you would
11 expect better porosity and permeability to develop in
12 the center of these banks as it is up here in the Townsend
13 Field.

14 The geologic studies in the area have indicated
15 that the traffic mechanism is strati-structural where
16 these porosities develop in the bank trend and they cross
17 or associated with these Three Brothers Wolfcamp structural
18 highs.

19 Q This shows also the Skelly well, does it not?

20 A Yes, sir, the Skelly well, the Pubco Number 1 Skelly
21 State Well is located here in Section 14 and the Hillburn,
22 Mesa Petroleum Company well is located right northeast
23 of it in Section 13.

24 Q Is this also an index map to the next Exhibit Number 2?

25 A Yes, sir. The cross section, structural cross section on

1 Exhibit Number 2 is indicated here as B, B Prime.
2 The cross section starts just to the north of Townsend
3 Field, comes south across the Townsend Field, jags a little
4 bit to the east, southeast to Shoebar and then crosses,
5 goes directly east over to the Hillburn Well, Mesa
6 Petroleum, Hillburn Number 1, then jags back south to
7 the Pubco Petroleum Skelly State Number 1 and proceeds
8 southward down and terminates into the Shoebar Field.

9 Q Now, referring to Exhibit Number 2, explain that.

10 A Exhibit Number 2 is a structural cross section, northwest,
11 southeast, B, B Prime, vertical scale of one inch to
12 100 feet, horizontal scale, there is none. The logs
13 were just placed to be representative of the distance
14 between the wells.

15 The logs, a cross section is hung on a minus
16 6,000 foot datum and it shows the structure on top of
17 the Wolfcamp Three Brothers Zone and the base of the
18 Wolfcamp Three Brothers Zone. It is in this zone from the
19 top to bottom that we have these banks that were
20 deposited in a regressive seed that was going from north
21 to south and were formed during the periods of stable
22 shelf conditions.

23 The lower bank and the oldest produces in the
24 Townsend Field here. The porosities are developed at
25 the top and the bottom and middle of the bank. It doesn't

1 make any difference. You can find the porosity
2 scattered throughout.

3 The B Bank, which is the Skelly State, Pubco
4 Petroleum Skelly was completed in -- it was completed for
5 an IP of 336 barrels of oil and 588 MCF per day. It's
6 the intermediate or next youngest bank and extends on
7 down to the Shoebar Field to the south.

8 MR. NUTTER: Excuse me, Mr. Crowley. On that
9 exhibit there, going from left to right, the first well
10 that you show the B Zone or the B Bank --

11 A The B Bank?

12 MR. NUTTER: Yes, sir, that well right there.

13 A It would be this well here.

14 MR. NUTTER: I thought that was it. Thank you.

15 A The prospective producing interval which is in the Mesa
16 Petroleum Hillburn Number 1 are two small zones of
17 porosity here, which we have a total of 18 feet from
18 log analysis with an average weighted average of about
19 4.8 percent in these zones. They have not been perforated.

20 Q Now, refer to Exhibit Number 3 and explain what this
21 shows?

22 A Exhibit Number 3 is a portion of the Neutron Porosity
23 Log on the Pubco Petroleum Corporation Skelly State
24 Number 1 on a scale of one inch to 100 feet. The top
25 of the log we show the Wolfcamp, top of the Wolfcamp

1 at 9546, top of the Three Brothers marker at 10,297
2 and shows the perforated interval in the Wolfcamp, the
3 Three Brothers zones, the B Bank and the top of the
4 Strawn, top of the Atoka-Morrow and the perforations in
5 our Morrow down here right above the Mississippian. We
6 have completed this well, but have not produced from the
7 Morrow. It was completed for 1989 MCF per day.

8 Q You can be seated now. What development, if any, does
9 Mesa contemplate in this area in the future?

10 A We intend to continue development drilling in the unit
11 area and we would drill our wells to the Morrow formation
12 and drill them in such a manner we would be able to dually
13 complete them in both the Wolfcamp and the Strawn and
14 hopefully triple complete them in the Morrow.

15 Q Any wells being drilled at the present time?

16 A Yes, sir, there is. Mesa Petroleum Number 1 Lister, which
17 is an east offset to the Hillburn well in Section 13.
18 We're drilling over in the east half of that section.

19 Q What is the status of that well at the present time?

20 A It's currently drilling at about -- I didn't get a report
21 this morning, but I assume 10,000 feet.

22 Q Your projected total depth would be what?

23 A It's a Morrow test, sir, and I would imagine about
24 thirteen two, about the same as the Hillburn.

25 Q Do you have any further comments with the Exhibits you

1 referred to?

2 A No, sir.

3 MR. HINKLE: The next witness will take up the
4 other phases of the case.

5
6 CROSS EXAMINATION

7 BY MR. NUTTER:

8 Q Mr. Crowley, of those wells in the B Bank, that's the
9 only two or three that have -- maybe four -- that have
10 the red zones of porosity indicated on them. Are all
11 of the wells completed or perforated in the B zone?

12 A This well is completed in the B zone. This is the Pubco
13 Skelly State Number 1 and this well, the Western
14 Natural, Eidson D Number 1 down in the Shoebar Field
15 is completed in the B Bank an this morning -- incidentally
16 I don't show this on your copy on your cross section
17 because I had to get this from your state office this
18 morning, the Western Natural Gas Eidson A Number 3 was
19 recompleted in 1961 in the B Bank and with the potential
20 of 420 barrels of oil per day.

21 Q Now, the well we were talking about a while ago, the left
22 most well, that's not perforated in the B Bank?

23 A No, sir.

24 Q Although the B Bank is present on the log?

25 A Yes, sir. It's present, but very thin and very poorly

1 developed.

2 Q And you don't have any wells at all in your cross
3 section that have the C Bank on them?

4 A No, sir. No. There's only one well, sir, that produces
5 from the C Bank and it's this well right here. It's
6 producing from the B and the C Bank.

7 Q And actually, in that particular area, the C Bank overlays
8 the B Bank?

9 A Yes, sir, just a small, little pothole been developed over
10 there where we can see it, actually see it.

11 Q Do you have C Bank down here in the southeast part
12 where you've indicated on --

13 A No, sir, there is no C Bank production in here. The bank
14 is present, but it's not productive.

15 MR. NUTTER: Are there any further questions?

16 MR. HINKLE: I'd like to offer Exhibits 1 through
17 3.

18 MR. NUTTER: Exhibits 1 through 3 will be admitted
19 in evidence. Are there any other questions of this
20 witness?

21 (No Response)

22 MR. NUTTER: He may be excused.

23 (Witness Excused)

24

25

ROY C. WILLIAMSON, JR.

was called as a witness, and after being duly sworn,
testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence and your profession.

A Roy C. Williamson, Jr., Midland, Texas. I'm a partner
and President of the consulting firm of Sipes, Williamson
and Aycock, Incorporated.

Q Have you been employed in this case by Mesa Petroleum
Company?

A Yes, I have.

Q Have you previously testified before the Commission?

A I have.

Q And your qualifications as a petroleum engineer are a
matter of record with the Commission?

A They are.

Q Have you made a study of the area which is involved in
this case?

A Yes, I have.

MR. HINKLE: Are his qualifications acceptable?

MR. NUTTER: Yes, they are.

Q Have you prepared or has there been prepared under your
direction Exhibits for introduction in this case?

A Yes.

- 1 Q And they are marked Exhibits 4 and 5?
- 2 A Yes, sir.
- 3 Q Would you refer to Exhibit 4 and explain what this is?
- 4 A Well, as our application calls for, we're asking for a
- 5 dual completion with the Wolfcamp and the Morrow and
- 6 this Exhibit Number 4 is a downhole schematic showing
- 7 the hook-up to provide for dual production from the
- 8 Morrow perfs. from 11,864 to 11,884, coincident with
- 9 the Wolfcamp perfs. at 10,456, 10,474 and by looking
- 10 at the Exhibit, you can see that the Wolfcamp perforations
- 11 will produce through the 2 7/8 tubing. The Morrow
- 12 perforations will produce through an Otis Crossover Choke
- 13 into the annular space between the 2 7/8 tubing and
- 14 the 5 1/2 inch casing.
- 15 Q In your opinion, if this is completed in the manner
- 16 portrayed here, will it confine the production to the
- 17 prospective zone?
- 18 A Yes, it will. We have no data to present on the Morrow
- 19 other than it was IP'd for 1,989 MCF per day. That's
- 20 an absolute open flow rate on March 16th of 1973. It
- 21 had a gas liquid hydrocarbon ratio of 10.96 MCF per barrel
- 22 of oil.
- 23 Q Now, refer to Exhibit 5 and explain what this is and what
- 24 it shows.
- 25 A Exhibit 5 relates the producing and pressure history,

1 although very limited for the Skelly State Number 1
2 and the Hilburn Number 1 which have both penetrated the
3 Wolfcamp interval.

4 The Skelly State Number 1 was potential on March
5 26, 1973 for 336 barrels of oil, zero barrels of water,
6 588 MCF for a gas oil ratio of 1750 cubic feet per
7 barrel of oil.

8 The Skelly State Number 1 was produced for 7 days
9 in March, produced 1678 barrels. In April produced
10 24 days, 2075 barrels; May produced the whole month and
11 produced 1146 barrels; in June produced 30 days, 856
12 barrels; in July it produced 19 days, 411 barrels, until
13 it was shut in for a bottom hole pressure build-up test.

14 As previously testified by Mr. Crowley, the Hilburn
15 Number 1 has not been perforated in the Wolfcamp interval.

16 The next item on Exhibit Number 5 is a chronological
17 listing of the pressure data that we have available from
18 these wells. The Skelly State Number 1 had a drill stem
19 test taken December 23, 1972 and the static pressure
20 measured, in other words, the highest pressure measured,
21 was 3,998 pounds. This compares very favorably with an
22 identical type pressure taken in the Hilburn Number 1
23 on 8-31-73, of 3,956 pounds.

24 Now, by extrapolating the data from the Skelly
25 State Number 1 DST, we have what we believe to be the

1 initial reservoir pressure of 4,101 pounds.

2 The well was produced according to the above
3 schedule that we have already talked about and it was
4 shut in on April 16, 1973 for 117 hour build-up test.
5 The extrapolated pressure from this test was 2,550 pounds.
6 The well was then put back on production, was again
7 tested, shut-in 7-21-73 for a 24 hour build-up test and
8 at this time, the extrapolated pressure was only 1575
9 pounds.

10 The well was left shut in, it was not produced and
11 then a static bottom hole pressure measurement was taken
12 September 10, 1973 and measured 2,536 pounds.

13 So, what we can infer from this data is that the
14 reservoir is low permeability and obviously very tight
15 as exhibited by the pressure build-up data that we have
16 to date; however, I will point out that the producing
17 rate of the well did stabilize at something around 20
18 barrels per day and we also see between July 21st and
19 September 10th that the pressure did continue to build,
20 so we do have communication out in the reservoir, but
21 somewhat limited.

22 Of course, at this time, we're concerned about what
23 kind of development spacing would be best for this well
24 and we'd have to look at the economic picture to determine
25 what must be the spacing.

1 Page Number 2 of Exhibit Number 5, at the top we
2 have volumetric calculation of reserves. This is the
3 Skelly State Number 1 and we have net pay, 15 feet,
4 porosity, 9.4 percent, water saturation, 13, the oil
5 formation volume factor, 1.6 and an estimated recovery
6 factor of 20 percent.

7 Going through the volumetric calculation as shown
8 by the formula there, we have recoverable oil of 79
9 barrels per acre foot.

10 Now, if we can only drain 40 acres, we will then
11 recover 47,400 barrels of oil and just as a multiple,
12 if we can drain 160 acres, we can recover 189,600 barrels
13 of oil.

14 The next data refer to the Hilburn Number 1 in which
15 we have net pay of 12 feet, porosity is considerably
16 lower, of 4.5 percent, water saturation of 13, oil
17 formation volume factor and recovery factor of -- or
18 respectively of 1.6 and 20 as we use for the Skelly State
19 Number 1.

20 These calculations result in recoverable oil of
21 38 barrels per acre foot, reduces to 40 acre recovery
22 of 18,240 barrels of oil. On 160 acres drainage of
23 72,960 barrels of oil.

24 Page Number 3 of Exhibit 5, at the top we have
25 Economics. We have estimated the cost to drill to the

1 Morrow, which we feel like should be done in this area,
2 to test the Morrow, then to come back and make a single
3 completion in the Wolfcamp, this would be a cost of
4 \$271,570.00. Utilizing an oil price of 5.36, a casing-
5 head gas price, although it has not been contracted for
6 at this time, it's estimated that the price will be around
7 \$250.00 per MCF, an estimated average GOR over life
8 of the well of .006 cubic feet per barrel of oil, severance
9 and Ad Valorem taxes of 5.6 percent and net lease interest
10 of 80 percent, operating cost of \$400.00 per well per
11 month and estimated life of production, 10 years.

12 We reduce this then to value from 40 acre recovery
13 and from 160 acre recovery. We have the value from the
14 oil, the value from the gas and the estimated operating
15 cost of the 40 acre recovery gives us undiscounted net
16 gas flow of \$173,564.00.

17 Compare this to the cost of drilling a well of
18 \$271,570.00 and we sustain a loss of \$98,006.00. If we
19 are able to drain 160 acres, the economics are considerably
20 improved where we have an undiscounted net cash flow of
21 \$910,256.00 minus the cost of \$271,570.00, yielding a
22 profit of \$638,686.00.

23 Of course, the data to date are very limited and
24 I think it's fairly obvious unless we are able to
25 encounter the Wolfcamp zone with better porosity and

1 permeability toward the thicker part of the mapped
2 horizon, that it's going to be uneconomical to drill for
3 the Wolfcamp and what we're saying is here that if we
4 are limited either by rule or physical limitations of
5 something around 40 acres, we just can't drill them, so
6 we would ask for the 160 acre spacing to allow some step-
7 out drilling to be done and to see if this reservoir can
8 be encountered with better characteristics so it can
9 become an economic venture.

10 Q Mr. Williamson, Mesa's application is for temporary
11 special pool rule?

12 A Yes, sir. They are temporary.

13 Q What would you recommend to the Commission as far as these
14 rules are concerned?

15 A I would recommend 160 acre spacing with the well to be
16 located 150 feet from the center of any quarter quarter
17 governmental section.

18 The reservoir as mapped by the data available
19 indicated to be of considerable size and is hoped that
20 it can be encountered with better characteristics in
21 other parts of the structure.

22 Q In your opinion, if the Commission approves this
23 application, will it be in the interest of conservation,
24 prevention of waste and tend to protect correlative rights?

25 A Yes, very definitely.

1 Q Do you have anything further you would like to present?

2 A No, sir, I don't.

3 MR. HINKLE: We'd like to offer Exhibits 4 and 5.

4 MR. NUTTER: Exhibits 4 and 5 will be admitted in
5 evidence.

6 MR. HINKLE: That's all of the direct.
7

8 CROSS EXAMINATION

9 BY MR. NUTTER:

10 Q Mr. Williamson, I think I understood Mr. Hinkle to say
11 prior to the hearing that the dual completion portion
12 of the next case will be dismissed?

13 A Yes, sir.

14 Q And that was for the dual completion in the Wolfcamp and
15 the Strawn of the Hilburn well?

16 A Yes, sir.

17 Q You have presented data here on the Hilburn well, but it's
18 a pretty sorry well, so apparently it's not going to be
19 completed?

20 A Right. The downhole, the piping in the hole does not lend
21 itself well to a dual oil completion and the indicated
22 poor quality of the Wolfcamp reservoir at this location
23 also precludes it.

24 As can be seen by Exhibit Number 1, the Hilburn
25 well is nearer the projected edge of the Strawn Bank B

1 and you would expect to have deterioration of the pay,
2 as you move toward that edge, so it does fit the picture
3 in that it's a poor well and we hope, as we move toward
4 the higher and more central portion of the bank, that the
5 quality will improve.

6 Q The Lister well which is drilling to the east is farther
7 into the bank then, apparently?

8 A Yes.

9 Q So, you'd expect improved conditions there?

10 A We would hope to have better conditions there. This is
11 the situation we just don't have enough data to really
12 tell us what will happen out in the greater part of the
13 bank.

14 Q The good well here in the Wolfcamp settled down to a
15 producing rate of about 20 barrels per day?

16 A Yes and of course, economics are questionable there at
17 that rate. Of course, we haven't had any sustained
18 producing rate, so we would hope it would improve somewhat,
19 but it may not.

20 Q I notice here in your economics you gave an estimated
21 life of production of 10 years. It's going to take a
22 lot more than 10 years and additional cost to get this
23 189,000 barrels.

24 A Right, it sure will. It would hurt the economics even
25 worse if -- you're probably looking at 20 years or 25

1 years at those types of rates.

2 Q Now, this is the total of production that has been
3 obtained from this well?

4 A Yes. It's been shut in subsequent to that last pressure
5 test taken on July 19th, so we have no more production
6 data available and that's the total of 6,166 barrels.

7 Q And it proposed to use a crossover here so the Wolfcamp
8 would be produced through the tubing?

9 A Yes.

10 Q Would Wolfcamp flow or would it have to be pumped?

11 A It's flowing now.

12 Q And the Morrow would come up the annulus through the
13 crossover?

14 A Right and the Wolfcamp could be pumped if necessary.

15 MR. NUTTER: Are there any further questions of
16 Mr. Williamson?

17

18

CROSS EXAMINATION

19

BY MR. KELLAHIN:

20 Q Mr. Williamson, I acknowledge your expertise and I hope
21 you will bear with the questions I ask. Perhaps some of
22 it is for my own information.

23 It seems to me that the spacing and people have
24 told me it's based on economics and the ability of the
25 particular well to drain the acreage. I have trouble

1 with the economics thing.

2 It seems to me that the economics is based or
3 premised on the fact that a given well will have the
4 ability to drain a given acreage and if it won't drain
5 40 acres or 160 acres, then the question of economics is
6 really not very important.

7 Am I operating under the right hypothesis?

8 A Well, I would disagree. Economics are very important.
9 I think that's the whole problem we're looking at. The
10 data we have to date indicates that this well in this
11 position, from the pressure data, is probably a very
12 low permeability reservoir, so the question is, can we
13 economically drain enough of the resevoir, get enough
14 oil, so to speak, to make this well economic and that's
15 the part we don't know right at this moment.

16 We would hate to overdrill this reservoir on 40
17 acres and find out that 40 is all it would drain or 20
18 or 10 or whatever it might be, so we would hope to step
19 out into the better, what we think is the better part of
20 the bank, try to locate the reservoir at a better
21 developed position, get some additional tests and pressure
22 data, then determine if it's economic or if it would cause
23 any waste to drill on a smaller spacing unit.

24 Q If the 160 acre spacing is allowed, what will be the
25 limits of the 160 acre spacing; where will it go on one

1 of these plats?

2 A Well, it would probably be within the limits of our
3 Strawn Bank B as we now have it projected. That's the
4 orange.

5 Q That's the orange color?

6 A Right. In other words, from the data available today,
7 that's where the Strawn Bank B will lie.

8 Q And the 160 acre spacing, as you propose, then, would not
9 effect anything in Section 11, let's say. If you'll
10 approach one of these plats, Section 11 is just north
11 of the Skelly well.

12 A Well, unless it would encounter the bank, you know, if
13 it were in the same reservoir, it would effect it, but
14 if it's a different reservoir or different zone or
15 something, it would not.

16 Q What do we have to show us that this Skelly well is not
17 part of the Townsend Wolfcamp pool?

18 A Well, we've got our geological interpretation as shown
19 by Exhibit Number 2, which correlates the Strawn Bank B
20 to be a younger bank. By that, I mean it's higher. It's
21 above the A Bank and shows that it was formed at a
22 different period of time and further exhibited by Bank
23 C, which is yet a younger bank, so plus the fact that
24 the limits of the Bank A were established some time ago,
25 this being quite an old field.

1 Q It's your opinion, then, that this bank B is not an
2 extension of the Townsend Wolfcamp pool?

3 A That's correct.

4 Q Townsend Wolfcamp pool is Bank A then?

5 A Right. There's no evidence to date to link the two
6 together, vis-a-vis many of the wells in bank A are
7 temporarily abandoned or plugged now because they have
8 been producing for some period of time.

9 Q From the Exhibit 5 here in the pressure information on
10 here, the way I understand this is that the pressure
11 information is such that this well could not drain 160
12 acres based on what you know now?

13 A No, I don't know that because you've two situations. You
14 may drain an area, but can you drain it economically?
15 By that I mean, can you drain it at rates that are
16 economic and this well may produce two barrels a day
17 and eventually drain a very large area, but you cannot
18 afford to operate the well at two barrels a day, so what
19 we're looking at is a real time drainage rate; can we
20 drain 160 acres at a rate that would be economic.

21 We're looking at two things, the rate and the
22 amount of oil we can recover.

23 Q Mr. Williamson, I was interested in the cross section
24 here. If you go ahead and develop this pool on 160 acre
25 spacing, based on what you know now, isn't it conceivable

1 that you would by-pass and leave oil in place that you
2 might otherwise develop on lesser spacing?

3 A Well, I'm sure there are places where oil is going to
4 be left in the ground, primarily because it's uneconomic
5 to drill for it.

6 I would say the 160 acre spacing would do more to
7 stimulate development because you are able to step out
8 and hopefully find a better quality reservoir. I don't
9 think anybody would want to offset this well on 40 acres.
10 The quality we have there, I would rather step out on a
11 large spacing and if you get several wells on 40 acres
12 close by, you're not going to develop a good program
13 for looking at the Strawn Bank B.

14 Q You're familiar with the characteristics of this Townsend
15 Wolfcamp pool, aren't you?

16 A Yes.

17 Q How are those characteristics different from the situation
18 you encounter in the Skelly well? In other words, aren't
19 the wells drilled in this pool differ in their pressures
20 and that sort of thing -- well, I'm having trouble saying
21 the question, but how do you account, or is there any
22 accountability for differences between the Skelly well
23 and the Townsend Wolfcamp pool?

24 A In what respect?

25 Q In respect to the fact that in the Townsend Wolfcamp,

1 there is some differences in the pressures encountered
2 between the wells in proximity to each other.

3 Would not that mean that the Townsend Wolfcamp
4 be developed on 160 acres, if I follow your reasoning?

5 A Well, I don't believe we testified to any pressure
6 date in the Bank A.

7 Q Well, I realize that. You said you were familiar with
8 this and I was interested if that, in fact, is true,
9 whether there is pressure differentials within the Townsend
10 Wolfcamp pool itself.

11 A I think there are two factors to account for why the
12 Townsend Wolfcamp was drilled on 40 acres. This is a
13 very old pool and I think in earlier times not as much
14 emphasis was placed on economically spacing wells to
15 drain a reservoir for case one.

16 Case two, I have looked at some wells in detail
17 and the pay thickness in the center of the bank, for
18 instance in Section 10 on our cross section, this would
19 be D, which is the Pure Oil Lease State A Number 1 D.
20 The net pay on that well is approximately 60 feet and
21 it's produced nearly 300,000 barrels of oil.

22 The well next to it, the State A Number 3 has
23 produced nearly 300,000 barrels and is still producing.
24 Wells both directions on Exhibit 1 to the north would
25 be the Shell -- I don't know what the fee name is, but

1 the first two wells -- the second and third well on the
2 cross section, they have produced around 200,000 barrels
3 apiece, so they are dropping off as you get toward the
4 edge of the bank.

5 Coming to the south, the Texas Pacific State NNJ
6 Number 1, which is an L of Section 10 has only produced
7 about 133,000 barrels and the Pure Oil Company Lease
8 State B Number 1 in Spot M has only produced about 10,000
9 barrels, so your quality drops off very rapidly toward
10 the edge of the bank which we feel is exactly what we
11 have here.

12 In my opinion, the Wolfcamp zone in the A Bank
13 could very well have been drained on 160 acre spacing
14 and that's what I'm saying here, that the same type of
15 better development in the center part of the bank
16 should occur in Bank B as it already had done in Bank A.

17 Q In Looking over Exhibit 5, the pressure information in your
18 porosity data which you have testified to, would indicate
19 at this point that you would need 80 acre spacing in order
20 to fully develop this Bank B, is that correct?

21 A I don't think I mentioned 80 acres.

22 Q No, I did. You would need 80 acre spacing in order to
23 fully develop this acreage, based on the pressure
24 information and the porosity data you testified to.

25 A I don't follow that you would need 80 acres. Are you

1 talking about economics?

2 Q No, sir, I'm talking about drainage and the ability to
3 develop it based on drainage. In other words, 160 acres
4 would be too much, wouldn't it?

5 A Well, what I'm saying is, from the pressure data we have,
6 we don't know what that well will drain. We know it's
7 tight. That's all we know. And I know from a volumetric
8 economic standpoint that if I can't drain more than 40
9 acres then I have an uneconomic well and that will stop
10 development immediately.

11 MR. KELLAHIN: No further questions.

12
13 RECROSS EXAMINATION

14 BY MR. NUTTER:

15 Q Mr. Williamson, when we get right down to it here, unless
16 you do get into this B Bank and encounter a better
17 section, these Wolfcamp wells themselves would not be
18 suitable for the primary target for drilling, would it?

19 A No, sir. The data we have to date does not indicate
20 them to be economical.

21 Q Each well in here, at least on 320 pattern would be taken
22 down to the Morrow?

23 A Right, so we'd get a look at all three resevoirs, which
24 is what Mesa's intent is, so hopefully we could encounter
25 better Wolfcamp or if not, of course, we're getting a

1 little ahead of our game here, but hopefully, I think
2 as Mr. Crowley testified, the idea you'd have a triple
3 or dual completion in which case, you may be able then
4 to get a salvage reservoir out of the Wolfcamp.

5 You couldn't drain or drill for it as a primary
6 target, but you could, as an alternative, a dual completion.

7 Q Now, the A Bank up in the Townsend Wolfcamp has had some
8 rather good wells completed and they have had some good
9 accumulated production figures.

10 A Yes, sir.

11 Q Do you have any reason to believe you'll encounter
12 Wolfcamp pay in the B Bank that would be as good as the
13 A Bank in the Townsend Wolfcamp?

14 A Well, we hope so. We just don't have any wells out there
15 yet to know.

16 Q How about this well way down at the end of the cross
17 section that's in the B Bank? I guess it would be the
18 second to the last well. What type of production history
19 does that well have?

20 A The Eidson Number 1, just a second here. Okay, the next
21 to the last well, which is the Eidson D Number 1, Western
22 Natural Gas, accumulative of 13,756 barrels of oil.

23 Q So there again, you've got the B Bank and not a very
24 good producing --

25 A Right. As an anomaly here, though, this next well,

1 the Eidson A Number 3 had accumulative as of the first
2 of the year of over 440,000 barrels.

3 Q That's not indicated on the map as being from the B Bank
4 though.

5 A That's what Mr. Crowley mentioned a while ago, that we
6 only just discovered that it had been -- we knew it was
7 a Penn well, we just didn't know what interval it was,
8 so I talked to the operator at Atlantic yesterday and
9 the well was originally drilled by Western Natural, then
10 bought by Sinclair and merged into Atlantic, so they had
11 lost all the records, so we got that from you people
12 here this morning and found it was completed in this
13 B Bank.

14 Q It definitely is a B Bank well, then?

15 A Yes, and it's very anomolus because the other wells
16 down there are very low productivity.

17 Q What's the accumulative on it, now?

18 A I just took it as of 1-1-73 and it was 443,386, but very
19 anomolus to the other wells in that area.

20 Q Does it have perforations anywhere except in the B Bank?

21 A Well, it was originally a Devonian well and unless they
22 got the Devonian oil in the accumulative. It was
23 recompleted in 1961, so it's a very anomolus well.

24 Q They may be carrying Devonian production in that figure.

25 A That's what I would really like to find out. It seems

1 to be because the other wells in there -- the other best
2 well to the right of it, which is not on the cross
3 section, produced 179,000 barrels and then the other
4 wells are down in the neighborhood of two to ten thousand
5 barrels. That's a very tight little area there, so I
6 would suspect there might be some other oil in there with
7 it.

8 Q Otherwise, as you say, it's a real anomaly?

9 A Yes, sir, very much so.

10 MR. NUTTER: Are there any other questions of
11 Mr. Williamson?

12 MR. HINKLE: Let me ask one or two questions here.

13
14 REDIRECT EXAMINATION

15 BY MR. HINKLE:

16 Q Mr. Williamson, by the information that will be obtained
17 by the well as non-drilling and by the development program
18 as contemplated during this next year, you expect to
19 have quite a bit additional information to determine the
20 drainage factors, economics of this area?

21 A Yes, sir. Mesa plans to develop this area very actively
22 and we'll have production history from the now completed
23 wells and new wells, too.

24 Q And that's the reason for requesting temporary rules for
25 a year?

1 A Yes.

2 MR. HINKLE: That's all.

3 MR. NUTTER: Any other questions of the witness?

4 MR. KELLAHIN: Just a couple of questions.

5

6 RECROSS EXAMINATION

7 BY MR. KELLAHIN:

8 Q In the Commission's file on the last well you mentioned,
9 there's production perhaps from different formations?
10 You indicated Pennsylvanian production of 443,386 barrels?

11 A Uh-huh.

12 Q That may account for the difference. That was
13 Pennsylvanian.

14 A Well, I just stated that just a moment ago.

15 Q The Devonian, then, is 72,534?

16 A Well, that's what the records show, but I'm suspicious
17 that's an awfully good well.

18 MR. NUTTER: If there are no further questions of
19 the witness he may be excused.

20 (Witness Excused)

21 MR. NUTTER: Do you have anything further, Mr.
22 Hinkle?

23 MR. HINKLE: That's all.

24 MR. NUTTER: Anything you wish to offer in this
25 case, Mr. Kellahin?

dearnley, meier & associates

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MR. KELLAHIN: Nothing.

MR. NUTTER: Mr. Carr?

MR. CARR: Mr. Examiner, the record should show that the Oil Commission has received a couple of wires, one from E. M. Scholl, District Engineer from Monsanto Company which reads, "Monsanto Company is an interested party in Case 5081, supports Mesa Petroleum, Incorporated for temporary rules for North Shoebar Wolfcamp Pool, provision for 160 acre drilling of proration unit."

We also have a wire from Skelly Oil Company in support of the application of Mesa.

MR. NUTTER: Thank you. If there is nothing further in Case 5081, we'll take the case under advisement.

dearnley, meier & associates

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, Donna Keith a Certified Shorthand Reporter, in and
for the County of Bernalillo, State of New Mexico do hereby
certify that the foregoing and Attached Transcript of Hearing
before the New Mexico Oil Conservation Commission was reported
by me; and that the same is a true and correct record of the
said proceedings to the best of my knowledge, skill and ability.

Donna Keith
CERTIFIED SHORTHAND REPORTER

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 5081
heard by me on 10/17, 19 73.
[Signature] Examiner
New Mexico Oil Conservation Commission

dearnley, meier & associates

209 SIMMS BLDG. • P.O. BOX 1082 • PHONE 243-8691 • ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108I N D E XWITNESSPAGE

DENNIS CROWLEY

Direct Examination by Mr. Hinkle

3

Cross Examination by Mr. Nutter

10

ROY C. WILLIAMSON, JR.

Direct Examination by Mr. Hinkle

12

Cross Examination by Mr. Nutter

19

Cross Examination by Mr. Kellahin

21

Recross Examination by Mr. Nutter

28

Redirect Examination by Mr. Hinkle

31

Recross Examination by Mr. Kellahin

32

E X H I B I T SAPPLICANT'SOFFEREDADMITTED

Exhibit 1

Map of Southwest
Lovington Prospect
Area

19

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Exhibit 2

Structural Cross
Section - B B'

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Exhibit 3

Neutron Porosity Log

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Exhibit 4

Downhole Schematic

19

19

Exhibit 5

Producing and Pressure
History Data

19

19



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

I. R. TRUJILLO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

December 5, 1974

Mr. Don Dent
Mesa Petroleum Company
Vaughn Building
Post Office Box 2009
Amarillo, Texas 79105

Re: CASE NO. 5081 and 5092
ORDER NO. R-4657-A and R-4658-A
Applicant:
OCC

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

Copy of order also sent to:

Hobbs OCC x
 Artesia OCC
 Aztec OCC

Other Mr. Paul Eaton

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. 5081 (Reopened)
Order No. R-4657-A

IN THE MATTER OF CASE NO. 5081 BEING
REOPENED PURSUANT TO THE PROVISIONS
OF ORDER NO. R-4657, WHICH ORDER
ESTABLISHED TEMPORARY SPECIAL RULES
AND REGULATIONS FOR THE NORTH SHOE
BAR-WOLFCAMP POOL, LEA COUNTY, NEW
MEXICO, INCLUDING A PROVISION FOR
160-ACRE SPACING AND PRORATION UNITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 26, 1974, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 3rd day of December, 1974, 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 by Order No. R-4657, dated November 16, 1973, temporary special rules and regulations were promulgated for the North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, establishing temporary 160-acre spacing and proration units.

(3) That pursuant to the provisions of Order No. R-4657, this case was reopened to allow the operators in the subject pool to appear and show cause why the North Shoe Bar-Wolfcamp Pool should not be developed on less than 160-acre spacing units.

(4) That the evidence establishes that one well in the North Shoe Bar-Wolfcamp Pool can efficiently and economically drain and develop 160 acres.

(5) That the Special Rules and Regulations promulgated by Order No. R-4657 have afforded and will afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool.

-2-

CASE NO. 5081 (Reopened)
Order No. R-4657-A

(6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, the Special Rules and Regulations promulgated by Order No. R-4657 should be continued in full force and effect until further order of the Commission.

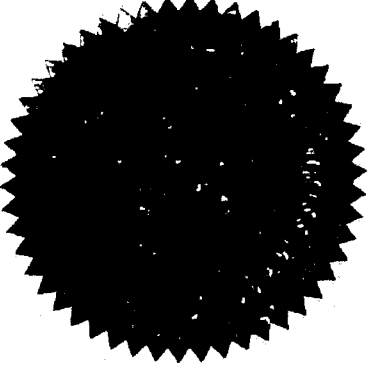
IT IS THEREFORE ORDERED:

(1) That the Special Rules and Regulations governing the North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, promulgated by Order No. R-4657, are hereby continued in full force and effect until further order of the Commission.

(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



I. R. Trujillo
I. R. TRUJILLO, Chairman

ALEX J. ARMIJO, Member

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

S E A L

jr/

Docket No. 32-74

Dockets Nos. 1-75 and 2-75 are tentatively set for hearing on January 8, and January 22, 1975. Application for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - TUESDAY - NOVEMBER 26, 1974

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 Richard L. Stamets, Alternate Examiner:

CASE 5081: (Reopened) (Continued from the November 13, 1974, Examiner Hearing)

In the matter of Case 5081 being reopened pursuant to the provisions of Order No. R-4657, which order established temporary special rules and regulations for the North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units. All interested parties may appear and show cause why said pool should not be developed on less than 160-acre spacing and proration units.

CASE 5082: (Reopened) (Continued from the November 13, 1974, Examiner Hearing)

In the matter of Case No. 5082 being reopened pursuant to the provisions of Order No. R-4658, which order established temporary special pool rules for the North Shoe Bar-Strawn Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units. All interested parties may appear and show cause why said pool should not be developed on less than 160-acre spacing and proration units.

CASE 5367: (Continued from the November 13, 1974, Examiner Hearing)

Application of Yates Petroleum Corporation for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to convert its Hornbaker BA Well No. 1, located in Unit G of Section 25, Township 18 South, Range 25 East, Penasco Draw Yesso-San Andres Pool, Eddy County, New Mexico, to dispose of produced salt water into the Yesso and San Andres formations through the perforated intervals from 1400 to 2480 feet. Applicant further seeks an administrative procedure for approval of additional salt water disposal into the Yesso and San Andres formations in the subject pool without notice and hearing.

CASE 4843: (Reopened)

In the matter of Case No. 4843 being reopened pursuant to the provisions of Order No. R-4435, which order established the Southeast Chaves Queen Gas Area and promulgated special rules and regulations therefor, including a provision for 320-acre spacing units for gas wells. All interested parties may appear and show cause why said Order No. R-4435 should not be rescinded.

- CASE 5373: Application of Monsanto Company for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to test the Morrow formation at a point 660 feet from the North and West lines of Section 18, Township 23 South, Range 25 East, Rock Tank Gas Field, Eddy County, New Mexico.
- CASE 5368: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the contraction of the vertical limits of the Jalmat Gas Pool underlying the Langlie Jal Unit Area in all or portions of Sections 31 and 32, Township 24 South, Range 37 East, and Sections 4, 5, 6, 8, 9, and 17, Township 25 South, Range 37 East, Lea County, New Mexico, to delete the Seven Rivers formation from said pool, and for the extension of the vertical limits of the Langlie-Mattix Pool underlying said area to include therein all of the Seven Rivers formation.
- CASE 5369: Application of Texas Pacific Oil Company, Inc., for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Tidwel No. 1 Well, located 990 feet from the South line and 660 feet from the East line of Section 22, Township 17 South, Range 26 East, Kennedy Farms-Morrow Gas Pool, Eddy County, New Mexico, the E/2 of said Section 22 to be dedicated to the well.
- CASE 5370: Application of American Quasar Petroleum Co. of New Mexico for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Tippin Ranch Unit Area comprising 3840 acres, more or less, of Federal, State, and fee lands in Township 23 South, Range 23 East, Eddy County, New Mexico.
- CASE 5371: Application of Amoco Production Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of its South Hobbs Unit Area comprising 5074 acres, more or less, of State and Fee lands in Townships 18 and 19 South, Range 38 East, Lea County, New Mexico.
- CASE 5372: Application of Amoco Production Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project on its South Hobbs Unit by the injection of water into the Grayburg and San Andres formations through 45 injection wells in Sections 3, 4, 5, 6, 8, 9, 10, 15, and 16, Township 19 South, Range 38 East, Lea County, New Mexico, and the promulgation of special rules therefor including, among other things, an administrative procedure whereby the project may be expanded by the drilling or conversion of additional injection wells without further notice and hearing.
- CASE 5374: Application of Continental Oil Company for simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the simultaneous dedication of a 480-acre non-standard gas proration unit comprising the N/2 and SE/4 of Section 23, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to its Meyer B-23 Wells Nos. 1, 2, 3, and 4, located at unorthodox locations in Units C, O, E, and G, respectively, of said Section 23.

Examiner Hearing - Tuesday - November 26, 1974

Docket No. 32-74

-3-

CASE 5375: Application of El Paso Natural Gas Company for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of South Blanco-Pictured Cliffs and Blanco-Mesaverde production in the wellbore of its Storey Well No. 4, located in Unit B of Section 34, Township 28 North, Range 8 West, San Juan County, New Mexico.

CASE 5376: Application of McClellan Oil Corporation for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Ishie Lake Unit Area comprising 3,404 acres, more or less, of Federal, State, and fee lands in Township 16 South, Ranges 28 and 29 East, Eddy County, New Mexico.

Docket No. 33-74

DOCKET: EXAMINER HEARING - THURSDAY - DECEMBER 12, 1974

1:30 P.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following case will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas from seventeen prorated pools in Lea, Eddy, Roosevelt, and Chaves Counties, New Mexico, for January, 1975;
- (2) Consideration of the allowable production of gas from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for January, 1975.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

I. R. TRUJILLO
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER
STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

November 16, 1973

Re: CASE NO. 5081 and 5082
ORDER NO. R-4657 and R-4658
Applicant:
Mesa Petroleum Company

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

DOCKET MAILED

Dear Sir:

Date 11-1-74 *For Nov 13*

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

DOCKET MAILED
Date 11-15-74
For Nov. 26

Very truly yours,

A. L. Porter, Jr.
A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC

Other Tom 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. 5081
Order No. R-4657

APPLICATION OF MESA PETROLEUM
COMPANY FOR A DUAL COMPLETION
AND SPECIAL POOL RULES, LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 17, 1973, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 16th day of November, 1973, 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, Mesa Petroleum Company, seeks approval for the dual completion of its Skelly State Well No. 1, located in Unit I of Section 14, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico, in such a manner as to produce oil from the North Shoe Bar-Wolfcamp Pool and gas from an undesignated Morrow gas pool through 2 7/8 inch tubing and through the casing-tubing annulus, respectively, by means of a crossover flow assembly, with separation of the zones achieved by means of a packer set at approximately 11,787 feet.
- (3) That the applicant further seeks the promulgation of temporary special pool rules for said North Shoe Bar-Wolfcamp Pool, including a provision for 160-acre drilling and proration units.
- (4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.
- (5) That the proposed dual completion will prevent waste and protect correlative rights and should be approved.
- (6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk

-2-

CASE NO. 5081
Order No. R-4657

arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 160-acre spacing units should be promulgated for the North Shoe Bar-Wolfcamp Pool.

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

(8) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(9) That this case should be reopened at any examiner hearing in November, 1974, at which time the operators in the subject pool should be prepared to appear and show cause why the North Shoe Bar-Wolfcamp Pool should not be developed on less than 160-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mesa Petroleum Company is hereby authorized to complete its Skelly State Well No. 1, located in Unit I of Section 14, Township 16 South, Range 35 East, NMPN, Lea County, New Mexico as a dual completion (conventional) to produce oil from the North Shoe Bar-Wolfcamp Pool and gas from an undesignated Morrow Gas Pool through 2 7/8 inch tubing and through the casing-tubing annulus, respectively, by means of a crossover flow assembly, with separation of the zones by means of a packer set at approximately 11,787 feet.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-In Pressure Test Period for the Morrow Gas Pool.

(2) That effective November 10, 1973, Special Rules and Regulations for the North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
NORTH SHOE BAR-WOLFCAMP POOL

RULE I. Each well completed or recompleted in the North Shoe Bar-Wolfcamp Pool or in the Wolfcamp formation within one mile

thereof, and not nearer to or within the limits of another designated wellcamp oil pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

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

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

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

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

RULE 6. A standard proration unit (156 through 162 acres) shall be assigned a depth bracket allowable of 560 barrels, subject to the market demand percentage factor, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

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

-4-

CASE NO. 5081

Order No. R-4657

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the North Shoe Bar-Wolfcamp Pool or in the Wolfcamp formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before November 30, 1973.

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

Failure to file new Forms C-202 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable.

(3) That this case shall be reopened at an examiner hearing in November, 1974, at which time the operators in the subject pool may appear and show cause why the North Shoe Bar-Wolfcamp Pool should not be developed on less than 160 acre spacing units.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



I. R. Trujillo
I. R. TRUJILLO, Chairman

ALEX J. ARMILLO, Member

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

SEAL

jr/

Docket No. 31-74

Dockets Nos. 32-74 and 1-75 are tentatively set for hearing on November 26, 1974, and January 8, 1975. Application for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING -- WEDNESDAY -- NOVEMBER 13, 1974

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas from seventeen prorated pools in Lea, Eddy, Roosevelt, and Chaves Counties, New Mexico, for December, 1974;
- (2) Consideration of the allowable production of gas from five prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for December, 1974.

CASE 5081: (Reopened)

In the matter of Case 5081 being reopened pursuant to the provisions of Order No. R-4657, which order established temporary special rules and regulations for the North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units. All interested parties may appear and show cause why said pool should not be developed on less than 160-acre spacing and proration units.

CASE 5082: (Reopened)

In the matter of Case No. 5082 being reopened pursuant to the provisions of Order No. R-4658, which order established temporary special pool rules for the North Shoe Bar-Strawn Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units. All interested parties may appear and show cause why said pool should not be developed on less than 160-acre spacing and proration units.

CASE 5367: Application of Yates Petroleum Corporation for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to convert its Hornbaker BA Well No. 1, located in Unit G of Section 25, Township 18 South, Range 25 East, Penasco Draw Yeso-San Andres Pool, Eddy County, New Mexico, to dispose of produced salt water into the Yeso and San Andres formations through the perforated intervals from 1400 to 2480 feet. Applicant further seeks an administrative procedure for approval of additional salt water disposal into the Yeso and San Andres formations in the subject pool without notice and hearing.

Examiner Hearing - Wednesday - November 13, 1974

Order No. 31-74
-2-

- CASE 5362: Application of Continental Oil Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Bell Lake-Morrow Gas Pool, Lea County, New Mexico, to provide for 320-acre spacing rather than 160 acres. In the absence of objection, this pool will be placed on the standard 320-acre spacing for Pennsylvanian gas pools rather than the present 160-acre spacing.
- CASE 5363: Application of Union Oil Company of California for a non-standard oil proration unit and unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks, as an exception to the Lovington-Devonian Pool Rules, the formation of a non-standard proration unit comprising the NE/4 SW/4 and NW/4 SE/4 of Section 12, Township 17 South, Range 36 East, Lea County, New Mexico, to be dedicated to applicant's Midway State Unit Well No. 5, proposed to be drilled at an unorthodox location 2310 feet from the South line and 2310 feet from the West line of said Section 12.
- CASE 5364: Application of Morris R. Antwell for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests of Pennsylvanian age or older underlying Lots 1,2,7,8,9,10,15, and 16 of Section 4, Township 21 South, Range 26 East, Undesignated Avalon-Upper Pennsylvanian Gas Pool, Eddy County, New Mexico, to be dedicated to applicant's Western Reserves Federal Well No. 2, to be drilled at a standard location for said unit. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of the applicant as the operator of the well and a charge for the risk involved in drilling said well.
- CASE 5365: Application of Mesa Petroleum Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in all formations down to and including the Devonian formation underlying the E/2 of Section 34, Township 16 South, Range 37 East, Lea County, New Mexico, or such part thereof as may constitute an approved proration unit for the type of well completed, to be dedicated to a well to be drilled at an unorthodox location for said 320-acre unit. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of the applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 5366: Application of Robert N. Enfield for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Cottonwood Draw Unit Area comprising 3,813.48 acres, more or less, of Federal and fee lands in Township 25 South, Range 27 East, Eddy County, New Mexico.

CASE 5352: (Continued from the October 30th, 1974, Examiner Hearing)

Application of David Fasken for compulsory pooling and an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests of Pennsylvanian age or older underlying the S/2 of Section 2, Township 18 South, Range 26 East, Eddy County, New Mexico, to be dedicated to a well to be drilled at an unorthodox location 990 feet from the South line and 1650 feet from the East line of said Section 2. Also to be considered will be the cost of drilling and completing said well and the allocation of such costs, as well as actual operating costs and charges for supervision. Also to be considered is the designation of the applicant as operator of the well and a charge for the risk involved in drilling said well.

CASE 5355: (Continued from the October 30th, 1974, Examiner Hearing)

Application of Tesoro Petroleum Corporation for pool contraction and expansion, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the contraction of the Lone Pine-Dakota "D" Oil Pool by the deletion of the E/2 NW/4 of Section 8, Township 17 North, Range 8 West, McKinley County, New Mexico, and the expansion of the Hospah-Dakota Oil Pool by the addition of such lands.

CASE 5361: In the matter of the application of the Oil Conservation Commission of New Mexico upon its own motion for an order for the creation of a new pool in Lea County, New Mexico, and the extension of certain existing pools in Chaves, Lea, and Roosevelt Counties, New Mexico, and giving notice to all persons and parties interested in the subject matter thereof to appear and show cause why such creations and extensions should not be made.

(a) Create a new pool in Lea County, New Mexico, classified as an oil pool for Seven Rivers production and designated as the Leaco-Seven Rivers Pool. Further to assign approximately 18,920 barrels of oil discovery allowable to the discovery well, the Viersen and Cochran Laney Well No. 4, located in Unit O of Section 30, Township 18 South, Range 39 East, NMPM. Said well was completed September 9, 1974. The top of the perforations is at 3784 feet. Said pool would comprise:

TOWNSHIP 18 SOUTH, RANGE 39 EAST, NMPM
SECTION 30: SE/4

(b) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for McKee production and designated as the Crosby-McKee Gas Pool. The discovery well is Union Texas Petroleum Corporation, Crosby Deep Well No. 3 located in Unit J of Section 33, Township 25 South, Range 37 East, NMPM. Said pool described as:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM
SECTION 33: All

(c) EXTEND the Burton Flats-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM

SECTION 11: E/2

SECTION 14: All

SECTIONS 22 and 23: All

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM

SECTION 12: N/2

(d) EXTEND the South Carlsbad-Morrow Gas Pool in Eddy County, New Mexico, to include:

TOWNSHIP 22 SOUTH, RANGE 26 EAST, NMPM

SECTION 13: S/2

SECTION 24: All

SECTION 25: N/2

SECTION 34: W/2

SECTION 36: E/2

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM

SECTION 19: N/2

SECTION 29: W/2

TOWNSHIP 23 SOUTH, RANGE 26 EAST, NMPM

SECTION 1: E/2

SECTION 3: N/2

SECTIONS 13 and 14: All

SECTION 21: E/2

SECTION 22: S/2

SECTIONS 23 and 24: All

SECTIONS 26 and 27: All

SECTION 35: All

TOWNSHIP 23 SOUTH, RANGE 27 EAST, NMPM

SECTION 3: W/2

SECTIONS 4 and 5: All

SECTION 8: W/2

SECTION 17: All

SECTION 19: N/2

SECTION 20: N/2

TOWNSHIP 24 SOUTH, RANGE 26 EAST, NMPM

SECTION 2: All

SECTION 3: E/2

SECTION 10: E/2

(e) EXTEND the Crosby-Fusselman Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM

SECTION 33: S/2

(f) EXTEND the Sawyer-San Andres Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 38 EAST, NMPM
SECTION 16: W/2
SECTION 21: NW/4

(g) EXTEND the West Sawyer-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 9 SOUTH, RANGE 37 EAST, NMPM
SECTION 23: SE/4

(h) EXTEND the Northwest Todd-San Andres Associated Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 35 EAST, NMPM
SECTION 16: NW/4
SECTION 17: N/2

(i) EXTEND the Vest Ranch-Queen Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 30 EAST, NMPM
SECTION 16: NE/4

Docket No. 29-73

DOCKET: EXAMINER HEARING - WEDNESDAY - OCTOBER 17, 1973

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 Richard L. Stamets, Alternate Examiner:

ALLOWABLE: (Continued from October 3, 1973, Examiner Hearing)

- (1) Consideration of the allowable production of gas for November, 1973, from seventeen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for November, 1973.

CASE 5075: Application of Hillin Production Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its JCW State Com. Well No. 1 located in Unit C of Section 2, Township 20 South, Range 28 East, Eddy County, New Mexico, in such a manner as to produce gas from an undesignated Strawn gas pool and from the Winchester-Morrow Gas Pool through the casing-tubing annulus and tubing, respectively.

CASE 5076: Application of David Fasken for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to drill a well at an unorthodox location 1980 feet from the North line and 660 feet from the West line of Section 7, Township 18 South, Range 26 East, West Atoka-Morrow Gas Pool, Eddy County, New Mexico, the N/2 of said Section 7 to be dedicated to the well.

CASE 5077: Application of Texaco Inc. for downhole commingling and a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle in the wellbore production from the Skaggs-Glorieta and East Weir-Blinbry Pools in its C. H. Weir "B" Well No. 4 located in Unit I of Section 11, Township 20 South, Range 37 East, Lea County, New Mexico, and to dually complete said well in such a manner as to permit the production of the aforesaid commingled fluids and hydrocarbons from the East Weir-Tubb Oil Pool through parallel strings of tubing.

CASE 5078: Application of Franklin, Aston & Fair for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to re-enter its McIntyre Well No. 6-A, an old hole located 990 feet from the South line and 1650 feet from the East line of Section 20, Township 17 South, Range 30 East, Eddy County, New Mexico, in order to complete same as a Morrow gas well, the E/2 of said Section 20 to be dedicated to the well.

CASE 5079: Application of May Petroleum Inc. for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a proposed well to be drilled at a point 1650 feet from the South line and 1129 feet from the East line of Section 31, Township 11 South, Range 38 East, North Gladiola-Devonian Pool, Lea County, New Mexico.

CASE 5080: Application of Horizon Oil & Gas Company of Texas for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its State 28 Well No. 2 located in Unit K of Section 28, Township 17 South, Range 29 East, Eddy County, New Mexico, in such a manner as to permit the production of gas from the Grayburg-Morrow Gas Pool and an undesignated Atoka Gas Pool through parallel strings of tubing.

CASE 5081: Application of Mesa Petroleum Company for a dual completion and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Skelly State Well No. 1 located in Unit I of Section 14, Township 16 South, Range 35 East, in such a manner as to produce oil from the North Shoe Bar-Wolfcamp Pool and gas from an undesignated Morrow gas pool through parallel strings of tubing. Applicant further seeks the promulgation of temporary special rules for said North Shoe Bar-Wolfcamp Pool, including a provision for 160-acre drilling and proration units.

CASE 5082: Application of Mesa Petroleum Company for a dual completion, creation of a new oil pool, assignment of a discovery allowable, and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the North Shoe Bar-Strawn Pool for its Hillburn Well No. 1 located in Unit E of Section 13, Township 16 South, Range 35 East, Lea County, New Mexico, and the assignment of approximately 56,440 barrels of oil discovery allowable to said well; applicant also seeks approval for the dual completion of said well in such a manner as to permit the production of oil from the North Shoe Bar-Wolfcamp Pool and the North Shoe Bar-Strawn Pool through parallel strings of tubing; applicant further seeks the promulgation of temporary special rules for said pool, including a provision for 160-acre drilling and proration units.

CASE 5083: Application of Texaco Inc. for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Blinebry-Paddock and Tubb production in the well-bore of its C. H. Lockhart Federal Well No. 3 located in Unit O of Section 18, Township 22 South, Range 38 East, Lea County, New Mexico.

CASE 5084: Southeastern nomenclature case calling for the extension of certain pools in Lea and Roosevelt Counties, New Mexico:

Examiner Hearing - Wednesday - October 17, 1973

Docket No. 29-73

-3-

(Case 5084 continued from page 2)

(a) Extend the Antelope Ridge-Atoka Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM
Section 2: S/2

(b) Extend the Antelope Ridge-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 34 EAST, NMPM
Section 2: S/2
Section 3: S/2
Section 4: S/2

(c) Extend the Bluitt-San Andres Associated Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 38 EAST, NMPM
Section 5: SW/4

(d) Extend the EK Yates Seven Rivers-Queen Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM
Section 8: NW/4

(e) Extend the Hat Mesa-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM
Section 14: E/2

(f) Extend the Monument-Paddock Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM
Section 16: S/2
Section 17: E/2

(g) Extend the South Salt Lake-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 33 EAST, NMPM
Section 30: All

(h) Extend the Triple X-Delaware Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 32 EAST, NMPM
Section 12: NE/4

Examiner Hearing - Wednesday - October 17, 1973

Docket No. 29-73
-4-

(Case 5084 continued from page 3)

(1) Extend the Williams-Pennsylvanian Pool in Lea County, New Mexico,
to include therein:

TOWNSHIP 13 SOUTH, RANGE 32 EAST, NMPM
Section 29: NE/4



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DS NUTTER

NEW MEXICO OIL CONSERVATION COMMISSION PO BOX 2088

SANTA FE NM 87501

RE: CASE NUMBER 5081 MONSANTO COMPANY AS AN INTERESTED PARTY
IN CASE NUMBER 5081 SUPPORTS MESA PETROLEUM CORPORATIONS APPLICATION
FOR TEMPORARY SPECIAL RULES FOR NORTH SHOE BAR-WOLFCAMP POOL
INCLUDING A PROVISION FOR 168 ACRE DRILLING AND PRORATION UNITS
EM SCHOLL DISTRICT ENGINEER

*File
Case 5081*

OIL CONSERVATION COMM.
Sent to
OCT 18 1973
DIRECTOR

TO	BY	TO BE
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DATE	TIME	
10-16	1148H	

B- 308157

BEFORE EXAMINER NOTAR

OIL COMPANY NO. 4

CAO NO. 5081

EXHIBIT NO. 4

SHOE BAR, NORTH (WOLFCAMP) FIELD, LEA COUNTY, NEW MEXICO
SKELLY STATE NO. 1 (I, 14-16S-35E)
HILBURN NO. 1 (E, 13-16S-35E)

Production History of Wells:

Skelly State No. 1 IP 3-26-73 336 BO + 0 BW + 588 MCF, GOR 1750/1

<u>1973</u>	<u>Skelly State No. 1</u> BO	<u>Hilburn No. 1</u>
March - 7 Days	1678 <i>ave 240</i>	Not Completed
April - 24 Days	2075 <i>ave</i>	
May - 31 Days	1146	
June - 30 Days	856	
July - 19 Days	411	
	<u>6166</u>	

Pressure History of Wells: Datum 10,465 (-6,478)

<u>Type of Test</u>	<u>Skelly State No. 1</u> psig	<u>Hilburn No. 1</u> psig
Drill Stem Test	4101 ¹ 3998 ² (12-23-72) (test interval 10,405-10,527)	3956 ² (8-31-73) (test interval 10,403-10,495)
4-16-73 Build-Up Test CI 117 Hrs.	2550 ¹	
7-21-73 Build-Up Test CI 24 Hrs.	1575 ¹	
9-10-73 Static BHP Measurement	2536 ²	

Key: 1 Extrapolated pressure from build-up curve
2 Static BHP measurement

*Morrow in Skelly State No 1
IP CAO 1990 MCF w/
10000+ to 1 ratio*

EXHIBIT NO. 4
PAGE 1 of 3

Volumetric Calculation of Reserves:

Skelly State No. 1 - Wolfcamp

Net Pay, Feet	= 15
ϕ , Percent	= 9.4
S_w , Percent	= 13
Oil FVF, RB/STB	= 1.6 (est.)
Recovery Factor, Percent	= 20 (est.)

$$\frac{(7758 \text{ B/AF})(.094)(1 - .13)(.20)}{1.6} = 79 \text{ BO/AF Recoverable}$$

If 40 Ac Drainage:

$$(79 \text{ BO/AF})(40\text{Ac})(15') = 47,400 \text{ BO Recoverable}$$

If 160 Ac Drainage:

$$(47,400 \text{ BO})(4) = 189,600 \text{ BO Recoverable}$$

Hilburn No. 1 - Wolfcamp

Net Pay, Feet	= 12
ϕ , Percent	= 4.5
S_w , Percent	= 13
Oil FVF, RB/STB	= 1.6 (est.)
Recovery Factor, Percent	= 20 (est.)

$$\frac{(7758)(.045)(1 - .13)(.20)}{1.6} = 38 \text{ B/AF}$$

If 40 Ac Drainage:

$$(38 \text{ BO/AF})(40\text{Ac})(12) = 18,240 \text{ BO}$$

If 160 Ac Drainage:

$$(18,240 \text{ BO})(4) = 72,960 \text{ BO}$$

Economics: Skelly State No. 1

Cost to drill to Morrow and make a single completion in Wolfcamp	\$271,570
Oil Price, \$/BBL	5.36
Casinghead Gas, Price, \$/MMCF (est.)	250.00
Average GOR over life of well, MM/BO	0.006
Severance and Ad Valorem Taxes, Percent	5.6
Net lease interest, Percent	.80
Operating cost, \$/MO	400.00
Estimated life of production, Years	10

Value of 40 Acre Recovery

Oil: $(47,400 \text{ BO})(.8)(\$5.36/\text{BO})(.944) = \$191,869$
Gas: $(47,400 \text{ BO})(.006 \text{ MM/BO})(.8)(\$250/\text{MM})(.944) = \$53,695$
Op. Costs: $(180 \text{ MO})(\$400/\text{MO}) = (\$72,000)$
Undiscounted Net Cash Flow = \$173,564

Undiscounted Net Loss if 40 Ac drainage:

$$\$173,564 - 271,570 = (\$98,006)$$

Undiscounted Profit if 160 Ac drainage:

$$\$910,256 - 271,570 = \$638,686$$

160 Acre Recovery

$(\$191,869)(4) = \$767,476$
 $(\$53,695)(4) = \$214,780$
 $(\$72,000)$
\$910,256

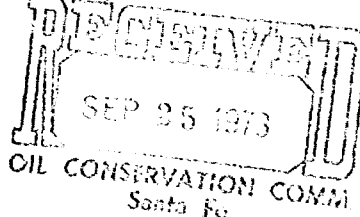
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BEFORE THE OIL CONSERVATION COMMISSION

Case 5081

STATE OF NEW MEXICO

APPLICATION OF MESA PETROLEUM CO.
FOR ADOPTION OF TEMPORARY SPECIAL
POOL RULES FOR THE SHOE BAR NORTH
WOLFCAMP POOL TO INCLUDE THE SE $\frac{1}{4}$
SECTION 14 AND NW $\frac{1}{4}$ SECTION 13,
TOWNSHIP 16 SOUTH, RANGE 35 EAST,
LEA COUNTY, NEW MEXICO, INCLUDING
160 ACRE SPACING, AND FOR THE DUAL
COMPLETION OF PUBCO'S (MESA) NO. 1
SKELLY STATE LOCATED 1980 FEET FROM
THE SOUTH LINE AND 660 FEET FROM THE
EAST LINE OF SAID SECTION 14 IN THE
WOLFCAMP AND MORROW FORMATIONS.



Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Comes Mesa Petroleum Co., acting by and through the undersigned attorneys, and hereby makes application for adoption of temporary special pool rules for the Shoe Bar North Wolfcamp Pool to include the SE $\frac{1}{4}$ Section 14 and NW $\frac{1}{4}$ Section 13, Township 16 South, Range 35 East, Lea County, New Mexico, including 160 acre spacing, and for the dual completion of Pubco's (Mesa) No. 1 Skelly State located 1980 feet from the south line and 660 feet from the east line of said Section 14 in the Wolfcamp and Morrow formations, and in support thereof respectfully shows:

1. That Mesa Petroleum Co. is the successor in interest to Pubco Petroleum Corporation. On or about March 26, 1973 Pubco Petroleum Corporation completed its Skelly State No. 1 well located in Unit I 1980 feet from the south and 660 feet from the east lines of Section 14, Township 16 South, Range 35 East, N.M.P.M. Said well was completed for oil production in the Wolfcamp formation through perforations from 10,456 feet to 10,474 feet, with initial production of 336 barrels of oil per day and as a gas producer in the Morrow formation through perforations from 11,864 feet to 11,884 feet, with initial production of 657.6 MCF per day.

2. As a result of the discovery in the Wolfcamp formation in the above mentioned well, a request was made that the Commission designate the discovery as the Shoe Bar North Wolfcamp Pool.

RECEIVED

Date 10-5-73

3. Applicant is in the process of completing as an oil producer in both the Wolfcamp and Strawn formations its Hilburn No. 1 well located in Unit E 1980 feet from the north line and 660 feet from the west line of Section 13, Township 16 South, Range 35 East, N.M.P.M. It is believed that this well will be completed as a well capable of producing in paying quantities from both the Wolfcamp and Strawn formations.

4. There is attached hereto, made a part hereof and for purposes of identification marked Exhibit "A", a plat showing the location of the wells hereinabove referred to. The plat also shows all of the wells which have been drilled and which are producing within a radius of 2 miles thereof, together with the ownership of the oil and gas leases within the area covered by the plat. The plat also shows the outlines of the Southwest Lovington Unit which covers all of Sections 13 and 14, NE $\frac{1}{4}$ Section 23 and N $\frac{1}{2}$ Section 24, Township 16 South, Range 35 East, which is a working interest unit of which applicant is the operator. The above mentioned wells were drilled under said unit.

5. In the opinion of applicant all of the NW $\frac{1}{4}$ Section 13 and SE $\frac{1}{4}$ Section 14 are productive of oil and gas in paying quantities from the Wolfcamp formation and each of said wells is capable of efficiently and economically draining each of said 160 acre units.

6. In order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells and to otherwise prevent waste and protect correlative rights, applicant believes it is in the interest of conservation and the prevention of waste to adopt special pool rules and regulations providing for 160 acre spacing units for the Wolfcamp formation and that each of the 160 acre quarter sections upon which said wells are located be dedicated to the respective wells.

7. Applicant also requests the dual completion of the well located in Section 14 in the Wolfcamp and Morrow formations.

8. Applicant requests that this matter be set down for the examiner's hearing to be held on October 17, 1973.

Respectfully submitted,

MESA PETROLEUM CO.

By 

HINKLE, BONDURANT, COX & EATON
P.O. Box 10
Roswell, New Mexico
Attorneys for Applicant

DRAFT

dr/

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. 5081 (Reopened)

Order No. R- 4657-A

IN THE MATTER OF CASE NO. 5081 BEING REOPENED
PURSUANT TO THE PROVISIONS OF ORDER NO. R-4657,
WHICH ORDER ESTABLISHED TEMPORARY SPECIAL RULES
AND REGULATIONS FOR THE NORTH SHOE BAR-WOLFCAMP
POOL, LEA COUNTY, NEW MEXICO, INCLUDING A PROVISION
FOR 160-ACRE SPACING AND PRORATION UNITS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November ²⁶~~13~~, 194
at Santa Fe, New Mexico, before Examiner Richard L. Stamets DSN.

NOW, on this ^{December}~~November~~ day of ~~November~~, 1974, 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 by Order No. R-4657, dated November 16, 1973,
temporary special rules and regulations were promulgated for the
North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, establishing
temporary 160-acre spacing and proration units.

1 (3) That pursuant to the provisions of Order No. R-4657,
2 this case was reopened to allow the operators in the subject
3 pool to appear and show cause why the North Shoe Bar-Wolfcamp
4 Pool should not be developed on ^{less than} 160-acre spacing units.

5 (4) That the evidence establishes that one well in the
6 North Shoe Bar-Wolfcamp Pool can efficiently and economically
7 drain and develop ⁴⁶⁰ 320 acres.

8 (5) That the Special Rules and Regulations promulgated by
9 Order No. R-4657 have afforded and will afford to the owner of
10 each property in the pool the opportunity to produce his just
11 and equitable share of the gas in the pool.

12 (6) That in order to prevent the economic loss caused by
13 the drilling of unnecessary wells, to avoid the augmentation
14 of risk arising from the drilling of an excessive number of
15 wells, to prevent reduced recovery which might result from the
16 drilling of too few wells, and to otherwise prevent waste and
17 protect correlative rights, the Special Rules and Regulations
18 promulgated by Order No. R-4657 should be continued in full
19 force and effect until further order of the Commission.

20 IT IS THEREFORE ORDERED:

21 (1) That the Special Rules and Regulations governing the
22 North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, promulgated
23 by Order No. R-4657, are hereby continued in full force and
24 effect until further order of the Commission.

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

27 DONE at Santa Fe, New Mexico, on the day and year hereinabove
28 designated.
29
30
31
32

*Direct Reply to -
Unassigned
Strawn*

Memo

From

**D. S. NUTTER
CHIEF ENGINEER**

To Clarence Hinkle

Mesa Petroleum Co.

dual completion

Hillbome Well No 1

1980 FNL & 660 FWL

B #4-165-35E Lea

under Strawn oil

N Shore Bar WC oil

*Special rule for N Shore Bar
WC incl 160 acre appt.*

Clarence Hinkle

*WC perf 10400-10468
Strawn perf 11288-11358*

DRAFT

jr

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. 5081

Order No. R-4657

APPLICATION OF MESA PETROLEUM
COMPANY FOR A DUAL COMPLETION
AND SPECIAL POOL RULES, LEA COUNTY,
NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on October 17, 19 73,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of November, 19 73, 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, Mesa Petroleum Company, seeks approval for
the dual completion of its Skelly State Well No. 1, located in Unit I of
Section 14, Township 16 South, Range 35 East, NMPM, Lea County, New
Mexico, in such a manner as to produce oil from the North Shoe Bar-
Wolfcamp Pool and gas from an undesignated Morrow gas pool through 2
7/8 inch tubing and through the casing-tubing annulus, respectively,
by means of a cross^{over} flow assembly, with separation of the zones
achieved by means of a packer set at approximately 11,787 feet.

(3) That the applicant further seeks the promulgation of temporary special pool rules for said North Shoe Bar-Wolfcamp Pool, including a provision for 160-acre drilling and preoration units.

(4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(5) That the proposed dual completion will prevent waste and protect correlative rights and should be approved.

(6) That in order to prevent the economic loss caused by the drilling of unnecessary wells, to avoid the augmentation of risk arising from the drilling of an excessive number of wells, to prevent reduced recovery which might result from the drilling of too few wells, and to otherwise prevent waste and protect correlative rights, temporary special rules and regulations providing for 160-acre spacing units should be promulgated for the North Shoe Bar-Wolfcamp Pool.

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

(8) That the temporary special rules and regulations should be established for a one-year period in order to allow the operators in the subject pool to gather reservoir information to establish the area that can be efficiently and economically drained and developed by one well.

(9) That this case should be reopened at any examiner hearing in November, 1974, at which time the operators in the subject pool should be prepared to appear and show cause why the North Shoe Bar Wolfcamp Pool should not be developed on less than 160-acre spacing units.

IT IS THEREFORE ORDERED:

(1) That the applicant, Mesa Petroleum Company is hereby authorized to complete its Skelly State Well No. 1, located in Unit I of Section 14, Township 16 South, Range 35 East, NMPM, Lea County, New Mexico as a dual completion (conventional) to produce oil from the North Shoe Bar Wolfcamp Pool and gas from an undesignated Morrow Gas Pool through 2 7/8 inch tubing and through the casing-tubing annulus, respectively by means of a crossover flow assembly, with separation of the zones by means

of a packer set at approximately 11,787 feet.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-In Pressure Test Period for the Morrow Gas Pool.

(2) That effective November 10, 1973, Special Rules and Regulations for the North Shoe Bar-Wolfcamp Pool, Lea County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS

FOR THE

NORTH SHOE BAR-WOLFCAMP POOL

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

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

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

received the application.

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

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

RULE 6. A standard proration unit (158 through 162 acres) shall be assigned a ~~160-acre proportional factor of 7.67 for~~ ^{depth bracket allowable of} ~~560 barrels, subject to the market demand percentage factor,~~ allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

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

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the North Shoe Bar-Wolfcamp Pool or in the Wolfcamp formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before November 30, 1973.

(2) That, pursuant to Paragraph A. of Section 65-3-14.5, NMSA 1953, contained in Chapter 271, Laws of 1969, existing wells in the North Shoe Bar-Wolfcamp Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules;

-5-
Case No. 5081
Order No. R-

or pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable.

(3) That this case shall be reopened at an examiner hearing in November, 1974, at which time the operators in the subject pool may appear and show cause why the North Shoe Bar-Wolfcamp Pool should not be developed on less than 160 acre spacing units.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

ALEX J. ARMITO, member

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

CASE 5082: Application of MESA
PET. FOR DUAL, NEW OIL POOL,
DISCOVERY ALLOWABLE & POOL RULES.

31.5.73