

**CASE 4353: Application of LONE
STAR PRODUCING CO. FOR SPECIAL
RULES FOR TRES PAPALOTES-PENN POOL**

Case Number

4353

Application

Transcripts.

Small Exhibits

ETC.

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

March 31, 1971

EXAMINER HEARING

IN THE MATTER OF:

Case 4353 being reopened pursuant
to the provisions of Order Number
R-3963, which Order established
160 acre spacing units for the
Tres Papalotes-Pennsylvania Pool,
Lea County, New Mexico, for a
period of one year.

Case No. 4353

BEFORE: ELVIS A. UTZ, Examiner

TRANSCRIPT OF HEARING

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date MARCH 31, 1971 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
S.G. Buell	Montgomery, Federico & Co.	Santa Fe
E. B. White, Jr.	American Quasam Petro. Co. of N.M.	MIDLAND, TEXAS
W. J. Henry	American Quasam Petro. Corp. N.M.	Midland Texas
W. M. Cronan	Lone Star Prod. Co.	Dallas, Tex.
John Casey	Jake R. Harrison	Dallas Mid, Tex
Mike Fortana (not willing)	Lone Star Producing	Dallas
James H. Hite	" " Midwest Oil Corp.	Midland
Richard Blackwell	Midwest Oil Corp.	Midland
Jason Kellahin	Kellahin & Fox	Santa Fe
Omar L. Brown	Midwest Oil Corp.	Midland
D.T. STOGNER, JR.	MIDWEST OIL CORP.	MIDLAND, TEXAS
Earl E. Gault	Consulting Prod.	Midland, Tex
Nora L. Dillman	P. W. Bryan & Co.	Santa Fe

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1 MR. UTZ: The hearing will come to order, please.
2 First case on the docket will be 4353.

3 MR. HATCH: Case 4353. Reopened in the matter of
4 Case 4353 being reopened pursuant to the provisions of
5 Order Number R-3963, which order established 160 acre spacing
6 units for the Tres Papalotes-Pennsylvania Pool, Lea County,
7 New Mexico, for a period of one year.

8 MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant,
9 Cox and Eaton, Roswell, representing Lone Star Producing
10 Company.

11 MR. UTZ: Are there other appearances?

12 MR. KELLAHIN: Jason Kellahin, if the Examiner
13 please, Kellahin and Fox, Santa Fe, appearing on behalf of
14 Sun Oil Company. We will not have any testimony to offer,
15 only a statement.

16 MR. UTZ: All right. Other appearances?

17 (Witnesses sworn.)

18 MR. HINKLE: We have five exhibits. This is the
19 official copy that has been marked. Are you ready?

20 MR. UTZ: Yes, sir. You may proceed.
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W. M. CRONAN

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence, and by whom you are
employed.

A W. M. Cronan, 3802 Eugene Court South, Irving, Texas,
employed by Lone Star Producing Company as chief
engineer.

Q Have you previously testified before the Oil Conservation
Commission?

A No, sir, I have not.

Q Are you a graduate petroleum engineer?

A Yes, sir. Graduated from Louisiana State University in
1956. I have ten years' experience as a production
engineer, two years as a district engineer, and I have
operated in my present capacity as chief engineer for the
last three years.

Q How long have you been with Lone Star Producing Company?

A Fifteen years.

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

A Yes, I have.

Q Have you been familiar with it since its discovery?

A Yes, I have.

1 Q Were you present at the original Case Number 4353 before
2 the Commission?

3 A Yes, I was.

4 Q You heard the testimony?

5 A Yes.

6 Q Are you familiar with the exhibits that were introduced
7 in that case?

8 A Yes, sir.

9 Q And you have made a study of all the wells in the pool --

10 A Yes, sir, I have.

11 Q -- of the production and all information available?

12 A Yes, sir.

13 Q You are familiar with the temporary pool rules that have
14 been adopted in this case?

15 A Yes, sir, I am.

16 Q And what do they provide, as far as spacing is concerned?

17 A They provide for 180 acre -- 160 acre spacing with well
18 location to be within 150 feet of a quarter quarter
19 section.

20 Q Have you prepared or has there been prepared under your
21 direction, certain exhibits for introduction into this
22 case?

23 A Yes, I have.

24 Q Refer to Exhibit Number 1, and explain what this is, and
25 what it shows.

- 1 A This exhibit shows that the field is composed entirely
2 of state leases, Lone Star Producing Company is the
3 operator of three wells in Section 33, namely, the
4 New Mexico 80 State Number 1, New Mexico 86 State Number 1,
5 New Mexico 87 State Number 1, and that Sun is the
6 operator of a well in the Northwest Quarter of
7 Section 34. This is the only other well in the field.
- 8 Q This also shows the ownership of the acreage in the pool?
- 9 A Yes, sir, it does.
- 10 Q And the dry holes that have been drilled surrounding it?
- 11 A Yes, they do.
- 12 Q Now, refer to Exhibit Number 2 and explain that.
- 13 A Exhibit Number 2 shows the field as an anticlinal
14 structure and that the limits of the field have been
15 defined by dry holes, except to the northeast. The Sun
16 New Mexico U State Number 1 well initially and
17 currently is producing with an approximately fifty-five
18 percent water cut, and therefore, we feel that the
19 northeast limit has also been established.
- 20 Q This is contoured on what, then?
- 21 A This is contoured on top of the Sun limit, Sun three.
22 This is in the Pennsylvanian.
- 23 Q From correlation of the location and the records on it?
- 24 A That's correct.
- 25 Q Now, refer to Exhibit 3 and explain that.

- 1 A Exhibit 3 is a cross section drawn for the producing
2 wells in the field, as will be noted by the plat in
3 the lower left-hand corner. This map is drawn from
4 south to north, and then over to the Sun east, to the
5 Sun State U, well number 1.
- 6 Q Then all of the wells and the producing wells are shown
7 on this cross section?
- 8 A Yes, sir. They are, and this shows the continuity of
9 the formation and also verifies the structure map that
10 was presented as Exhibit Number 2.
- 11 Q That is the only purpose of this exhibit, to show the
12 continuity of the Sun?
- 13 A Yes, sir, that's correct.
- 14 Q Now, have you compiled any information on the pressure
15 history and the cumulative production?
- 16 A Yes, sir, I have.
- 17 Q Refer to Exhibit 4 and explain that.
- 18 A The first portion of it is a pressure history of the
19 field since the initial well was drilled, which is the
20 Number 80 State Number 1, as can be seen, the initial
21 reservoir pressure as of January 8th, 1970, was 3986
22 pounds. On June the 10th, 1970, the second well was
23 drilled, the New Mexico 86 State Number 1, and the
24 initial pressure in this well was 3231 pounds, and this
25 indicated a pressure loss of 755 pounds.

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1 Later it -- on January the 14th, 1971 -- we ought
 2 to make a correction there. I have that listed as
 3 January 14th, 1970. It should be '71. The initial
 4 pressure in the well was -- in the third well, was 2159
 5 pounds. This also showed a decrease. From this, we can
 6 draw the conclusion that these wells are in the same
 7 reservoir, that there's good communication between the
 8 wells, and that the reservoir is being effectively drained
 9 by these wells.

10 Pressure data was not available on the Sun well, and
 11 therefore, it was not included in this tabulation.

12 Q Does this also show the cumulative production from the
 13 wells you have indicated?

14 A Yes, it does. We have indicated the cumulative production
 15 as of March the 1st, 1971. With this data, we made a
 16 material balance calculation below the bubble point, and
 17 calculated an in-place oil of 2.4 million barrels.

18 Using it and a material balance calculation, we
 19 calculated a recovery factor of twenty-seven percent,
 20 and this resulted in a total recoverable oil of 648,000
 21 barrels.

22 For convenience purposes, I based everything back to
 23 the first of the year, as it was the first of the year,
 24 241,467 barrels of oil had been produced, leaving a
 25 remaining recoverable reserve of 406 feet, 406,533 barrels.

1 Gas is being sold from this field, and based on
2 the initial solution gas-oil ratio, the calculated initial
3 oil in-place, 2.4, with the solution gas of 1430, was
4 calculated at -- let's see, and the recovery of eighty
5 percent of the gas in-place.

6 It was calculated initial recoverable gas was 2.7
7 billion feet of gas. To date, .3 billion feet of gas
8 have been produced, leaving a remaining of 2.4 billion
9 feet. You divide this in between four wells, it leaves
10 a recoverable gas of approximately six hundred million
11 feet of gas per well.

12 MR. UTZ: Now, you say to date, you mean 3-1-71?

13 THE WITNESS: On the gas, I brought it -- I didn't
14 have the gas figures broken out. The gas is as of 3-1-71.

15 Q (Mr. Hinkle continuing) Do you have any information on
16 the production decline curve?

17 A Yes, sir, I do.

18 Q Refer to Exhibit 5 and explain that.

19 A Exhibit 5 is a production decline curve based on
20 production from the first two wells that were drilled on
21 the reservoir, the New Mexico 80 and 86 State Number 1
22 well. The third well that was drilled, we do not have
23 sufficient production data to establish a decline, but
24 since we have shown with our pressure history that we have
25 good communication between the wells, it will be

1 acceptable to accept the decline curve established by
2 the two wells. Based on this, we calculate a remaining
3 recoverable reserve of approximately 291,000 barrels of
4 oil.

5 If this third well and any subsequent wells are
6 brought in, they will increase the current production,
7 but the decline would be sharper to where we should still
8 recover the same remaining recoverable reserves of
9 291,000 barrels.

10 Q Now, from your testimony and your study that you have made
11 of this area, in your opinion, will one well effectively
12 and efficiently drain 160 acres or more?

13 A Yes, sir. I think that the pressure history bears this
14 out.

15 Q Have you made a study of the economics of drilling 160
16 and 80 and 40 acres in this area?

17 A Yes, sir. Taking the material balance remaining reserves,
18 if we drill an additional well, a fourth well in this
19 reservoir, we could optimistically say it would have a
20 remaining recovery reserve of 100,000 barrels. At the
21 current price of three point -- \$3.41 a barrel, we would
22 realize a gross income of \$341,000. Gross income from gas
23 would be \$91,680 for a total gross of \$432,680.

24 We deduct the royalty, the tax, and operating
25 expenses, we arrive at a net income of \$276,223. The

1 average cost that we find in drilling wells in this
2 field is approximately \$210,000. Calculating your
3 income to investment ratio, you arrive at a 1.3 to 1
4 which isn't very good return on your money, when you
5 consider that this income has to be discounted over
6 approximately three years, which we project from the
7 decline curve with the additional well.

8 Your discounted income will be somewhat less, and
9 would then have effect of reducing your ratio even more.

10 Q What would happen if you drilled it on forty or eighty-
11 acre basis?

12 A In effect, what you would be doing if you drilled it on
13 eighties, would be cutting this remaining reserve in half,
14 which would make it very uneconomical to drill these
15 wells, because you wouldn't get a dollar-to-dollar return
16 on your investment.

17 Q It would cause an economic loss?

18 A It sure would.

19 Q Now, do you have any recommendations to make to the
20 Commission with respect to the special pool rules in this
21 case?

22 A Yes, sir. We recommend to the Commission that the
23 existing temporary rules be adopted as permanent rules
24 for the Papalotes-Pennsylvanian Pool.

25 Q In your opinion, would the permanent adoption of these

1 rules be in the interest of conservation and prevention
2 of waste?

3 A Yes, sir, I do.

4 Q Would it also tend to protect correlative rights?

5 A Yes, sir.

6 Q Do you have anything else you would like to present in
7 this case?

8 A No, sir.

9 MR. HINKLE: We offer in evidence Exhibits 1
10 through 5.

11 MR. UTZ: Without objection, Exhibits 1 through 5
12 will be entered into the records of this case.

13 (Whereupon, Applicant's Exhibits
14 1 through 5 were duly admitted
15 into evidence.)

16 CROSS EXAMINATION

17 BY MR. UTZ:

18 Q Do you anticipate anymore drilling in this pool?

19 A Well, there is a possibility that we may drill one
20 additional well on 160 acres in -- what is that? I
21 believe the south --

22 MR. HINKLE: 28.

23 THE WITNESS: In the south half of 28. We are
24 presently looking at it. The economics look pretty slim
25 right now. The geologists are reviewing the area, and we
haven't reached a final decision at this time.

1 Q Who owns the Southwest Quarter of 27?

2 A Southwest Quarter of 27?

3 Q Sun?

4 MR. HINKLE: Of 27, did you say?

5 MR. UTZ: Yes.

6 A Yes, sir. Sun --

7 MR. UTZ: How about the water cut on the other wells?

8 A We're making no water on our wells. Sun's wells originally
9 came in with about fifty-five percent water cut, and they
10 are pretty well maintaining the same cut. The material
11 balance calculations in this constant water cut leads
12 one to believe that this water is not active in this
13 field.

14 Now, three miles to the north in the east
15 Saunders field, it is active, but if this pressure drops,
16 the water may become active. We don't know. This is one
17 reason we are watching our pressures and keeping the data
18 that we are.

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

20 MR. HINKLE: That's all we have.

21 Q (Mr. Utz continuing) And your communications test
22 consists of Exhibit 4 as far as drainage is concerned?

23 A Yes, sir.

24 Q Communication between the wells?

25 A Yes, sir. I think this indicates that pretty well.

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1 MR. HINKLE: Might ask you one more question.
2 Outside of the well which you mentioned the possibility of
3 drilling in 28, do you have any intention of drilling any
4 other wells within the present limits of the pool?

5 THE WITNESS: No, sir, we do not.

6 MR. UTZ: Are there other questions of the witness?
7 You may be excused. Statements in the case?

8 MR. KELLAHIN: If the Examiner please, Sun Oil
9 Company is in support of the case that has been presented
10 by Lone Star.

11 We feel that the pressure information that has been
12 offered adequately supports the adoption of a permanent rule
13 for 160 acre spacing in this pool. And in addition, the pool
14 appears to be substantially developed, and both from the point
15 of view of drainage, which we feel it is adequate, and
16 economics, which have been shown to the Commission, any in-field
17 drilling would not be justified.

18 Therefore, we support the position of Lone Star, and
19 request the Commission to make the 160 acre rules permanent.

20 MR. UTZ: Are there other statements? Case will be
21 taken under advisement.
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2 COUNTY OF BERNALILLO) SS

3 I, LINDA MALONE, Court Reporter in and for the
4 County of Bernalillo, State of New Mexico, do hereby certify
5 that the foregoing and attached Transcript of Hearing before
6 the New Mexico Oil Conservation Commission was reported by
7 me and that the same is a true and correct record of the said
8 proceedings, to the best of my knowledge, skill and ability.
9

10 Linda Malone
11 Court Reporter
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I do hereby certify that the foregoing is
a complete record of the proceedings in
the hearing of Case No. 43,533
dated by me on 3/1/71.
Linda Malone
New Mexico Oil Conservation Commission

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 29, 1970

EXAMINER HEARING

IN THE MATTER OF:

Application of Lone Star Producing
Company for special pool rules,
Lea County, New Mexico.

CASE NO. 4353

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 4353.

MR. HATCH: Case 4353. Application of Lone Star Producing Company for special pool rules, Lea County, New Mexico.

MR. HINKLE: Clarence Hinkle, Hinkle, Bondurant, & Christy, Roswell, appearing on behalf of Lone Star. We have one witness I'd like to have sworn.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 4 were marked for identification.)

MR. UTZ: Are there any other appearances?
You may proceed.

DEAN WOLF

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

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, where you reside, and by whom you're employed.

A Dean Wolf, Midland, Texas, Lone Star Producing Company.

Q What is your position with Lone Star?

A I'm the District Petroleum Engineer.

Q Have you previously testified before this Commission?

A No.

Q Are you a graduate Petroleum Engineer?

A I graduated from the University of Texas with a Bachelor of Science in Petroleum Engineering in 1959.

Q State briefly your experience as a petroleum geologist.

A I went to work for Bayview Oil Corporation in Dallas and worked in all phases of Petroleum Engineering with them from Illinois Basin to Nebraska, New Mexico, Texas, Oklahoma, and Kansas.

Q Are you familiar with the operations of Lone Star in New Mexico?

A Yes.

Q Have you made a study of the Tres Papalotes area?

A Yes. Yes, I have.

Q Are you familiar with the operations of Lone Star in this area?

A Yes.

MR. HINKLE: Are the qualifications of the witness satisfactory?

MR. UTZ: Yes, they are.

Q (By Mr. Hinkle) Are you familiar with the applica-

tion of Lone Star in this case?

A Yes.

Q What is Lone Star seeking to accomplish by its application?

A Lone Star wants to obtain special pool rules for the Tres Papalotes Field, which would include 160-acre drilling and proration units.

Q Have you prepared or has there been prepared under your direction certain exhibits introduced to this case?

A Yes.

Q Refer to Lone Star's Exhibit Number 1 and explain what this is and what it shows.

A Well, this is a map of the acreage ownership and it shows the location of the discovery well that's marked in red, and all the acreage that we control either by lease or farmout at the present time, as colored in yellow.

Q Does this also show all of the wells that have been drilled in this area; that is, within the radius of two or three miles?

A Yes, sir.

Q And the ownership of all the acreage in there?

A Yes, sir.

Q Now, refer to Exhibit Number 2 and explain what this is and what it shows.

A Exhibit 2 is a structure map on top of the Saunders Lime. It also shows the discovery well in red. In Section 28, there is shown a location which is presently drilling and in the northwest quarter of 33, there is another location which we plan to drill. That's the next location we plan to drill. The green line on there delineates the cross section which is the next exhibit.

Q What information was this structural map based on?

A Well, it was drawn up from subsurface information of all the wells in the area.

Q Can you point out the wells that you had to base information on?

A Well, all the wells that were shown on the plat were used. It's pretty good control on this area in which we drilled, because there are dry holes that penetrated the Saunders Lime that are almost completely surrounding the area.

Q Dry holes you speak of there in Sections 32 and 34?

A Well, 34, 32, Section 5, up in Section 29 and 27.

Q Was this map or plat drawn before or after you drilled the well?

A This particular map here was drawn before the drilling of the well.

Q So that the drilling of the well and the discovery

didn't change materially the contours that you already had?

A No, sir.

Q What is the character of the acreage involved in the structure, as shown on Exhibit Number 2?

A The character of the acreage?

Q Yes. That is, I mean, whether it's Federal or State or --

A This is all State land. All of that that's colored in yellow on Exhibit 1 is State land, and all that's shown on this map, too.

Q Do you have any other comments with respect to this exhibit?

A No, sir.

Q Now, refer to Exhibit Number 3 and explain this to the Commission.

A Exhibit 3 is a cross section that was shown with the green line on Number 2. It also is shown or outlined on the bottom of the exhibit as to which wells are included. This shows our interpretation of the separation of this well or field from the East Saunders, and the High Plains, which are also Saunders Lime.

It was used in the application for the new field discovery, the discovery application which was granted on

the last -- I think on April 15. Yes, April 15.

Q This separation is emphasized by the two dry holes that are shown on the cross section?

A Yes, sir.

Q On either side of the structure?

A Right; Number 3. What is shown as Well Number 3 on this cross section is our discovery well and Wells Number 2 and 4, which are between it and any other producers are also shown.

Q What are the zones? I notice you have the top of the Saunders?

A Oh, yes.

Q The base of the Saunders?

A Yes.

Q Then you have S1, S2, 3, and 4. What does that denote?

A This is Lone Star's interpretation of the various zones within the Saunders Lime formation. We had porosity develop in only two of these in this well. We expect it will develop somewhere in the field in all four of them.

Q Now, the well that's shown in the center is a discovery well, is it not?

A Yes, sir.

Q Can you give briefly the history of this well?

A Yes, sir. It was spudded on December 4, 1969, and it was completed for production on January 28, 1970. It was drilled to a TD, or total depth, of 10,708, which was the log depth. The initial perforations were in what we show as the third zone from 10,468 to 74 and 10,481 to 88, and we filed a potential with the Commission of 449 barrels per day. Recently we perforated in the second zone from 10,404 to 10,420. We sent those perforations in; I believe it's C-103, I believe is the form number, and it showed the depths that we perforated.

The well tested was 669 barrels of oil per day on a 2664th choke with 530 PSI flowing pressure, a GOR of 1689.

Q How much pressure?

A Excuse me. 530. This was both zones together.

Q State again, both zones together have a potential of what?

A 669 barrels of oil per day.

Q Now, I believe you previously testified in connection with Exhibit Number 2 that you show the Number 2 well, which you're now drilling. What is the depth of that well at the present time?

A Well, unless they had trouble yesterday, we should be doing approximately 9800 feet this morning.

Q So that well will be open before too long?

A We probably will be logging it or testing it this weekend.

Q You also show the location of the third well. What is the status of that?

A We will spud that probably by Friday, May 1. Well, in fact, we'll have spudded it on or by Friday, May 1.

Q Does Lone Star have any plan to drill any additional wells, other than the two?

A We plan on developing this field as rapidly as we can.

Q By successive --

A We will keep one, at least one, and probably two drills running until we develop it.

Q I believe in connection with your Exhibit Number 2, it also shows the East Saunders and the High Plains pools, their relative location to this group; is that right?

A Yes, sir.

Q Have you made a study of these Saunders pools and this well, the discovery well?

A Yes, sir.

Q And all the other information available?

A Yes, sir. After we made this discovery, it appeared

that the East Saunders or that the Tres Papalotes Field was very similar, or was going to be very similar to the East Saunders. So we studied it for some sort of projection of what will happen in our field. The East Saunders wells, as they are presently set up, will at the time of abandonment, should make approximately 650,000 barrels of oil per well. If you take a thirty-five percent recovery of the original oil in place, they would have to drain 380 acres in order to produce this much oil.

I used a thirty-five percent recovery because we think this is a water drive, at least a partial water drive, reservoir. At least the East Saunders is, and we base that on the fact that the large recoveries, as well as the fact that about the middle of 1969, the three highest wells started making a little bit of water, small amounts of water which they had not done previously.

Q As a result of your study, are you of the opinion that one well in this pool will effectively and efficiently drain more than 160 acres?

A Yes, sir.

Q Have you made an economic study --

A Yes, sir.

Q -- of the development of this area?

A Yes, sir. That's Exhibit 4.

Q Will you refer to Exhibit 4 and explain what this shows?

A This is an outline of the economics as we see them. First, we have up at the top, we have some of the reservoir characteristics; the average porosity over the interval in this discovery well is a little over, nearly five and a half percent. Water saturation is approximately eighteen and a half percent. This is from log information. Formation volume factor, as shown there, is 1.264, which we've used from production information or obtained from production information. The recovery factor estimated was thirty-five percent, based on the East Saunders, and we figure this will be a water drive similar to the East Saunders.

The net pay, as shown by one of our porosity logs, is twenty-one feet. Using those factors and standard formula, we come up with 269 barrels of oil per acre foot in place. Below that, the recoverable reserves show, using the thirty-five percent recovery, comes out to 94 barrels an acre foot or 1974 barrels per acre.

And then below that shows the expected recovery on forty acre, or 160-acre spacing, which would be 79,000, 158,000, 316,000 barrels per well.

Q What is your conclusion from this economic study with respect to drilling or developing on forty acres or eighty acres or 160 acres?

A Well, we would have to, based on the price per barrel, which we have now and average working interest, as the total working interest owner, our net interest in the wells, the operating costs, salt water disposal costs, and taxes, we would average for forty acres, we would have a total net income of \$120,000.00. For eighty acres, we would have \$240,000.00, and for 160 acres, we would have \$480,000.00.

And these incomes do not include any reduction for Federal income tax, depreciation, depletion or time factor.

Q In other words, on forty acres, how would you come out in that?

A Well, our development cost that is shown on here is \$230,000.00. \$208,000.00 of that is drilling and completion costs. The remaining \$22,000.00 would be artificial lift facilities which we will need in the future to recover all these reserves. The East Saunders Field is presently on an artificial lift. The forty acres, we just barely get back a little over fifty cents for every dollar that we spend. On eighty acres, it's just practically a break even proposition, and the only way we can justify drilling these is on a 160

acre spacing. The reason is this is a relatively thin zone at below ten thousand feet, which is also characteristic of the East Saunders Field.

Q Do you know whether or not the Commission has heretofore approved the adoption of special pool rules on a 160 acre basis and proration units of the East Saunders Pool, and also for the High Plains Pennsylvanian Pool?

A Yes, sir.

Q Are you familiar with those rules?

A Yes, sir.

Q What is your recommendation to the Commission with respect to adoption of special pool rules for this field?

A We would like to see the pool rules approximately the same as the East Saunders and the High Plains, which have the 160-acre drilling and proration units. However, we would like to change it a little bit in that we would like to be able to drill our locations in any one of the forty-acre components of the drilling and proration units. And the well would be located in the center of the forty acres with the tolerance of 150 feet from the center. This would give us a little flexibility in developing this.

We want to stay in the center of the field, if possible.

Q Now, in your opinion, would the adoption of special

pool rules along the lines you've recommended be in the interest of conservation and prevention of waste and tend to protect correlative rights?

A Yes, sir.

MR. HINKLE: We would like to introduce Exhibits 1 through 4.

MR. UTZ: Without objection, Exhibits 1 through 4 will be entered in the record of this case.

(Whereupon, Applicant's Exhibits 1 through 4 were admitted into evidence.)

MR. HINKLE: That's all the Direct.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Wolf, you didn't do any coring in your Number 1 well?

A No, sir.

Q Did you intend to do any coring on any other wells?

A Not at the present time.

Q Don't you think it might be advisable in view of a temporary order?

A Well, the reason we didn't was because we are -- or we didn't plan it on the second well was because if it's a water drive field, we wouldn't actually need the information,

the additional information that we could probably obtain from the coring program for waterflood purposes.

Q Do you know anything about the permeability?

A Yes, sir. We have done some rather extensive pressure draw down and build up testing and the permeability runs around two hundred milidarcies in this well. It varies a little bit from zone to zone.

Q But your pressure draw down data shows about two hundred?

A Yes, sir; approximately two hundred milidarcies, probably.

Q Do you plan any interference tests of any kind?

A I'm sure, yes, sir, we will take bottom hole pressures on these wells after a suitable length of time. With this type of permeability, based on the testing that we did earlier, interference, we should be able to establish interference without too much difficulty.

Q But with your water drive, you won't, will you?

A With this type of rate, if it's not a hundred percent water drive, we'll be able to, and I don't believe it is. The East Saunders is not a hundred percent water drive, as far as the rates at which they are taking the oil out of the ground. But it is moving in now.

Q Do you think one year will give you time enough

to show what kind of drainage you really have in the pool?

A Yes, sir.

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

MR. HINKLE: Do you have any idea, at the rate of drilling you anticipate at the end of the year, how many wells you might have in if they are proved productive?

THE WITNESS: Let's see. By the end of 1970, we will have six to eight wells in the field, assuming that we are able to get the rigs to do the work.

MR. HINKLE: In your opinion, then, you'll have sufficient information at the end of the year to definitely determine rate of factors, would it not?

THE WITNESS: Yes, sir.

MR. UTZ: Providing you don't run into a water table, right?

THE WITNESS: Well, hopefully, they have got it pinned down fairly close.

MR. UTZ: Where do you think the water table is?

THE WITNESS: It shows on this, approximately, between 6225 and 6250. The McDonald Well in Section 32 tested water.

MR. UTZ: Are there other questions of the witness?
He may be excused.

(Witness excused.)

MR. UTZ: Statements in the case?

MR. HINKLE: Thank you very much.

MR. UTZ: The case will be taken under advisement,
and the hearing is adjourned.

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
DEAN WOLF	
Direct Examination by Mr. Hinkle	2
Cross Examination by Mr. Utz	14

EXHIBITMARKEDOFFERED AND
ADMITTED

Applicant's 1-4

2

14

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

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

David Bingham
 COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Executive hearing of Case No. 4353 held by me on April 29, 1970.
[Signature]
 New Mexico Oil Conservation Commission



OIL CONSERVATION COMMISSION

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

April 6, 1971

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMJO
MEMBER

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

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

Re: Case No. 4353
Order No. R-3963-A
Applicant:
Lone Star Producing

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director *lp*

ALP/ir

Copy of order also sent to:

Hobbs OCC X
Artesia OCC
Aztec OCC

Other Mr. Jason Kellahin

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 4353
Order No. R-3963-A

APPLICATION OF LONE STAR
PRODUCING COMPANY FOR SPECIAL
POOL RULES, LEA COUNTY, NEW MEXICO

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 31, 1971,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 6th day of April, 1971, 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-3963, dated May 12, 1970, temporary
Special Rules and Regulations were promulgated for the Tres
Papalotes-Pennsylvanian Pool, Lea County, New Mexico, establishing
160-acre spacing units for a period of one year.

(3) That pursuant to the provisions of Order No. R-3963,
this case was reopened to allow the operators in the subject pool
to appear and show cause why the Tres Papalotes-Pennsylvanian
Pool should not be developed on less than 160-acre spacing units.

(4) That the evidence establishes that one well in the
Tres Papalotes-Pennsylvanian Pool can efficiently and economically
drain and develop 160 acres.

-2-

CASE NO. 4353

Order No. R-3963-A

(5) That the Special Rules and Regulations promulgated by Order No. R-3963 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 oil in the pool.

(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-3963 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 Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, promulgated by Order No. R-3963, 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.

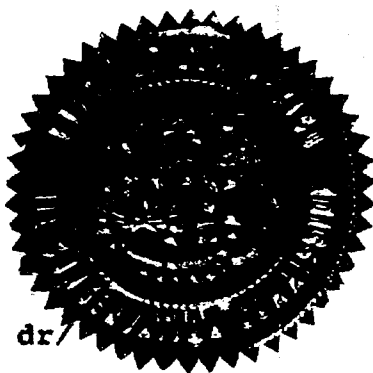
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


BRUCE KING, Chairman


ALEX J. ARMIJO, Member


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



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. 4353
Order No. R-3963

APPLICATION OF LONE STAR PRODUCING
COMPANY FOR SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 29, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 12th day of May, 1970, 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, Lone Star Producing Company, seeks
the promulgation of special rules and regulations for the Tres
Papalotes-Pennsylvanian Pool, Lea County, New Mexico, including
a provision for 160-acre spacing and proration units.

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

-2-

CASE No. 4353

Order No. R-3963

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

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

(6) That this case should be reopened at an examiner hearing in April, 1971, at which time the operators in the subject pool should be prepared to appear and show cause why the Tres Papalotes-Pennsylvanian Pool should not be developed on less than 160-acre spacing units.

IT IS THEREFORE ORDERED:

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

SPECIAL RULES AND REGULATIONS
FOR THE
TRES PAPALOTES-PENNSYLVANIAN POOL

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

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

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2 without notice and hearing when an application has been filed for a non-standard unit consisting of less than 160 acres or the unorthodox size or shape of the tract is due to a variation in the legal subdivision of the United States Public Land Surveys. All operators offsetting

-3-

CASE No. 4353
Order No. R-3963

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 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 Tres Papalotes-Pennsylvanian Pool or in the Pennsylvanian formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the Hobbs District Office of the Commission in writing of the name and location of the well on or before June 1, 1970.

-4-

CASE No. 4353

Order No. R-3963

(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 Tres Papalotes-Pennsylvanian Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

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

(3) That this case shall be reopened at an examiner hearing in April, 1971, at which time the operators in the subject pool may appear and show cause why the Tres Papalotes-Pennsylvanian 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


DAVID F. CARGO, Chairman


ALEX J. ARMIJO, Member


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


esr/

Case 4353

Heard 3-31-71

Rec. 4-1-71

Grant Lone Star a permanent
order for R-3963. Applicant
showed very good communication
in the pool.

Thud

Docket No. 7-71

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 31, 1971

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

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

CASE 4353: (Reopened)

In the matter of Case 4353 being reopened pursuant to the provisions of Order No. R-3963, which order established 160-acre spacing units for the Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pool should not be developed on less than 160-acre spacing units.

CASE 4516: Application of Sun Oil Company for a unit agreement, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Pot Mesa Unit Area comprising 8,423 acres, more or less, of state and federal lands in Sections 2, 3, 7 through 11, and 15 through 22, Township 20 North, Range 6 West, McKinley County, New Mexico.

CASE 4517: Application of Midwest Oil Corporation for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Federal J Com Well No. 1 at an unorthodox gas well location 660 feet from the South and West lines of Section 21, Township 18 South, Range 24 East, North Antelope Sink-Morrow Gas Pool, Eddy County, New Mexico.

CASE 4518: Application of American Quasar Petroleum Company of New Mexico for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the Vaca Draw Unit Area comprising 7680 acres, more or less, of State, Federal, and fee lands in Township 25 South, Range 33 East, Lea County, New Mexico.

CASE 4519: Application of Major, Giebel & Forster for a non-standard unit, Lea County, New Mexico. Applicants, in the above-styled cause, the approval of an 80-acre non-standard oil proration unit comprising the SW/4 SW/4 of Section 29, and the SE/4 SE/4 of Section 30, all in Township 16 South, Range 36 East, East Shoe Bar Devonian Pool, Lea County, New Mexico, to be dedicated to a well to be drilled in said SE/4 SE/4 of Section 30.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

P. O. BOX 2088 - SANTA FE

07601

GOVERNOR
DAVID F. CARGO
CHAIRMAN

**LAND COMMISSIONER
ALEX J. ARMJO
MEMBER**

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

May 12, 1970

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

Re: Case No. 4353

Order No. R-3963

Applicant:

Lone Star Producing Company

Date-

3-19-71

Dear Sir:

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

Very truly yours,

G. L. Carter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC

Other _____

Case 4353

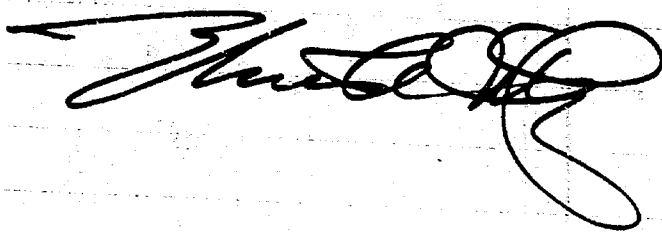
Heard 4-29-70

Rec. 5-5-70

Grant Lone Star a 1 yr. temp.
order for special pool rule
for the Sea Papatoes - Penn.
oil pool. Call in for show
scene 4-71.

Use order covering the spacing
to be in any 40 x ~~horizontal~~
within 150' from center of 40.
Use 7.67 Allow factor.
T. 3 Prep are 10, 468.

Grant the Discovery allowable.
As I can't find it in SE Pres.
Schedule.



Docket No. 11-70

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 29, 1970

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

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

CASE 4340: Application of Tesoro Petroleum Corporation for three waterflood projects and unorthodox injection well locations, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute three waterflood projects in the South Hospah Upper Sand Oil Pool by the injection of water through nine injection wells to be drilled at unorthodox locations in Section 1, Township 17 North, Range 9 West, and in Sections 6 and 7, Township 17 North, Range 8 West, McKinley County, New Mexico. Applicant further seeks a procedure whereby additional injection wells and producing wells at unorthodox locations within the project areas may be approved administratively.

CASE 4341: Application of Pan American Petroleum Corporation for two non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of two non-standard gas proration units for its State "C" Tract 13 Well No. 5, a dual completion, located 1980 feet from the North line and 660 feet from the West line of Section 36, Township 21 South, Range 37 East, Lea County, New Mexico, said units to be comprised as follows:

Blinebry Gas Pool - 240 acres - NW/4 and W/2
NE/4

Tubb Gas Pool - 200 acres - W/2 NW/4, NE/4
NW/4 and W/2 NE/4

CASE 4342: Application of Dearing, Wright, Gibbins, and Church, doing business as New Mexico Petroleum Company, for authority to operate an oil treating plant, Lea County, New Mexico. Applicants, in the above-styled cause, seek authority to install and operate a chemical and heating process oil treating plant in the vicinity of Tatum, New Mexico, for the reclamation of sediment oil to be obtained from tank bottoms, waste pits, and drip tanks.

Examiner Hearing - April 29, 1970
-2-

Docket No. 11-70

CASE 4343: Application of Texaco Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the perforated and open-hole interval from 11,194 feet to 11,278 feet in its New Mexico "BB" State (NCT-1) Well No. 2 located in Unit N of Section 11, Township 12 South, Range 32 East, East Caprock-Devonian Pool, Lea County, New Mexico.

CASE 4344: Application of Texaco Inc. for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the open-hole interval from 11,230 feet to 11,503 feet in its B. E. Spencer "B" Federal Well No. 1 located in Unit D of Section 28, Township 15 South, Range 30 East, Little Lucky Lake-Devonian Pool, Chaves County, New Mexico.

CASE 4345: Application of Yates Drilling Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers and possibly other formations in the open-hole interval from 68 feet to 100 feet in its Galvin Well No. 8 and from 68 feet to 90 feet in its Galvin Well No. 14, both located in Unit N of Section 12, Township 20 South, Range 26 East, West McMillan-Seven Rivers Pool, Eddy County, New Mexico.

CASE 4346: Application of Yates Drilling Company for a pressure maintenance expansion and promulgation of rules therefor, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand the S. P. Yates West McMillan Anderson Pressure Maintenance Project in the West McMillan Seven Rivers-Queen Pool, Eddy County, New Mexico, authorized by Order No. R-3852, by the conversion to water injection of two additional wells located in Units O and P, Section 11, Township 20 South, Range 26 East. Applicant further seeks the designation of a project area, promulgation of rules governing said project, and a procedure whereby other methods of flooding in the subject project may be authorized administratively.

CASE 4347: Application of Yates Drilling Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Yates North Vacuum (San Andres) Unit Area comprising 800 acres, more or less, of State lands in Sections 1, 2, 11, and 12, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico.

April 29, 1970 - Examiner Hearing

-3-

Docket No. 11-70

CASE 4348: Application of Yates Drilling Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its North Vacuum (San Andres) Unit Area by the injection of water into the San Andres formation through 9 wells located in Sections 1, 2, 11, and 12, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico. Applicant further seeks a procedure whereby said project may be expanded administratively without a showing of well response.

CASE 4349: Application of Tenneco Oil Company for a waterflood expansion and unorthodox injection well locations, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks to expand the waterflood project in its South Hospah Unit Area by the injection of water into the South Hospah Upper Sand Oil Pool, McKinley County, New Mexico, through two additional injection wells at unorthodox locations in Section 12, Township 17 North, Range 9 West, as follows:

Unit Well No. 41 - 5 feet from the North line and 1650 feet from the East line;

Unit Well No. 42 - 3000 from the North line and 5 feet from the East line.

CASE 4350: Application of Cities Service Oil Company for an exception to Order No. R-3221, as amended, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, which order prohibits the disposal of water produced in conjunction with the production of oil on the surface of the ground in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico. Said exception would be for applicant's Snyder Federal lease comprising the S/2 NE/4 and N/2 SE/4 of Section 26, Township 15 South, Range 29 East, Sulimar-Queen Pool, Chaves County, New Mexico. Applicant seeks authority to dispose of salt water produced by wells on said lease in an unlined surface pit located in Unit H of said Section 26.

CASE 4351: Application of Humble Oil & Refining Company for well reclassification and simultaneous dedication of acreage, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the reclassification of its New Mexico "G" State Well No. 5 from an oil well in the Eumont Pool to a gas well in said pool. Applicant further seeks the dedication of a standard 640-acre gas proration unit comprising all of Section 23, Township 21 South, Range 36 East, Lea County, New Mexico, to said Well No. 5 and to applicant's New Mexico "G" State Well No. 9,

April 29, 1970 - Examiner Hearing

Docket No. 11-70

-4-

located, respectively in Units E and G of said Section 23, and authority to produce the allowable assigned to said unit from either of said wells in any proportion.

CASE 4352: Application of Jack L. McClellan for the creation of a new gas pool or, in the alternative, the establishment of pool rules for two existing pools, Chaves and Lea Counties, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Queen gas pool comprising the following-described acreage:

CHAVES COUNTY, NEW MEXICO

Township 15 South, Range 29 East

Section 11: SE/4

Section 12: SW/4

Section 13: NW/4

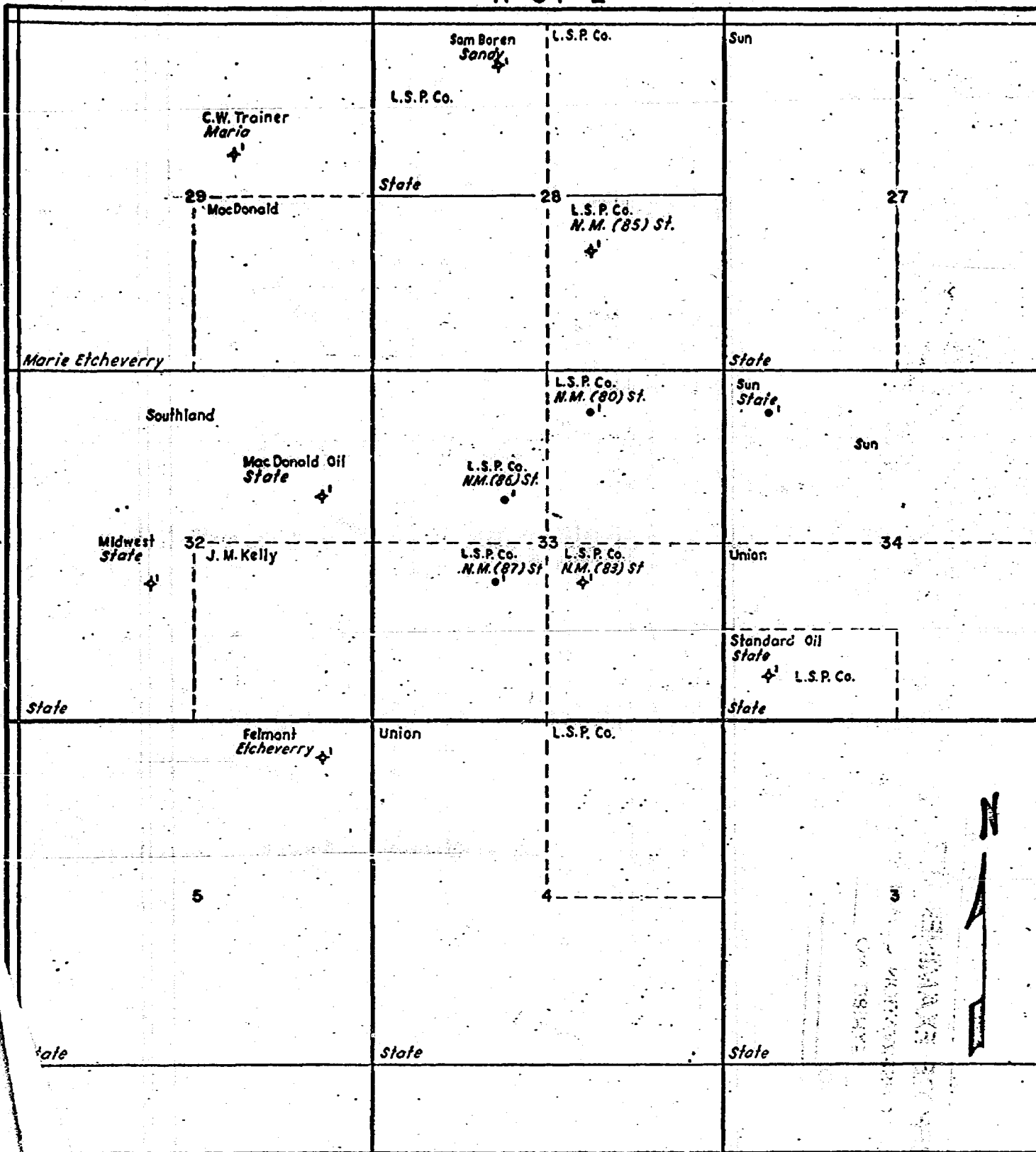
Section 14: E/2

Section 23: NE/4 and SW/4

In the alternative applicant seeks the promulgation of special rules for the Sulimar-Queen Pool, Chaves County, and Double L-Queen Pool, Chaves and Lea Counties, New Mexico, as separate or as consolidated pools, including provisions for the classification of oil and gas wells, spacing and well location requirements for oil and gas wells, and an allocation formula for withdrawals by oil wells and gas wells.

CASE 4353: Application of Lone Star Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, including a provision for 160-acre spacing and proration units.

R-34-E



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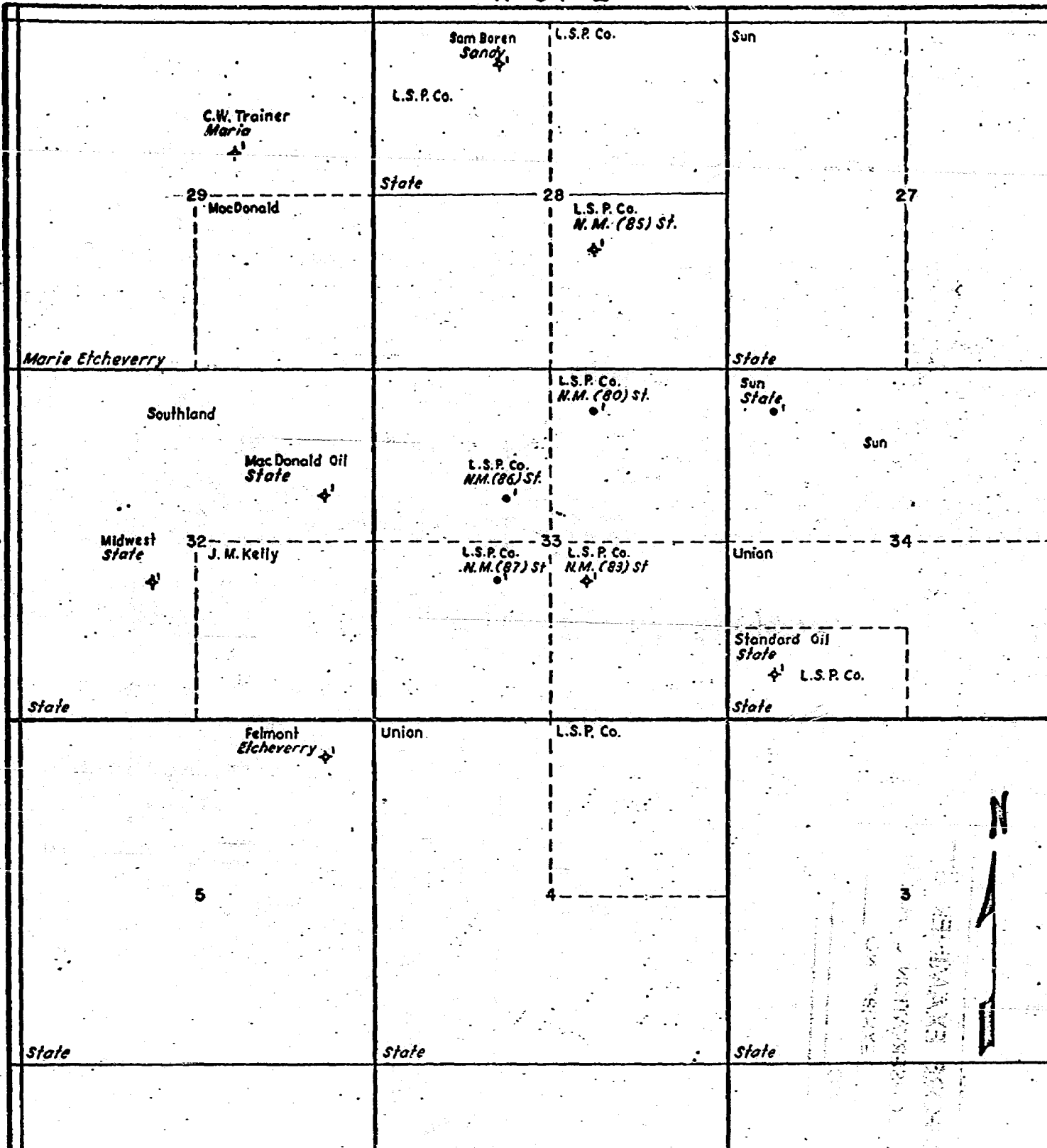
TRES PAPALOTES FIELD

LEA COUNTY, NEW MEXICO

Scale: 1" = 2000'

5.1 21

R-34-E



TRES PAPALOTES FIELD

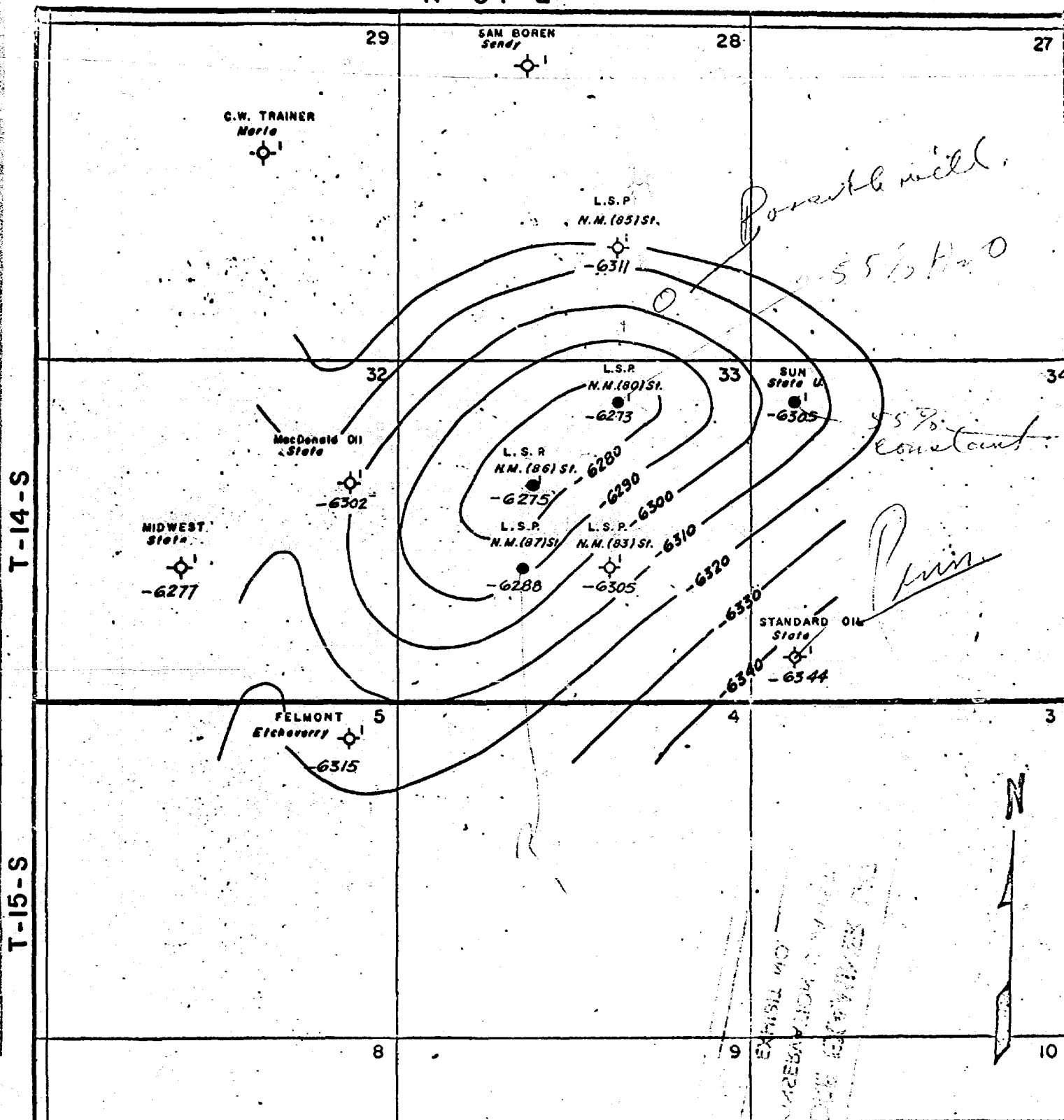
LEA COUNTY, NEW MEXICO

Scale: 1" = 2000'

Exhibit 21

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Applicant's EXHIBIT NO. 1
CASE NO. 4353

R-34-E



TRES PAPALOTES FIELD

LEA COUNTY, NEW MEXICO

Scale: 1" = 2000'

Exhibit #2

COMBINATION SEISMIC - SUBSURFACE STRUCTURE MAP

PENN. (SAUNDERS LIMESTONE - ZONE III) - Penn.

CONTOUR INTERVAL = 10'

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Applicants EXHIBIT NO. 2
CASE NO. 4353

Exhib. 4

PRESSURE HISTORY - PSIG

<u>DATE</u>	<u>LONE STAR PRODUCING CO. N.M. (80) STATE</u>	<u>LONE STAR PRODUCING CO. N.M. (86) STATE</u>	<u>LONE STAR PRODUCING CO. N.M. (87) STATE</u>
1/8/70	3,986 (Initial)		
6/10/70		⁻⁹⁵⁵ 3,231 (Initial)	
8/3/70	2,540	2,587	
11/7/70	2,192	2,159	
1/14/71			⁻¹⁸²⁷ 2,159 (Initial)
3/16/71	1,776		1,888

³⁹⁸⁶
²¹⁵⁹

1827

CUMULATIVE PRODUCTION
AS OF 3/1/71

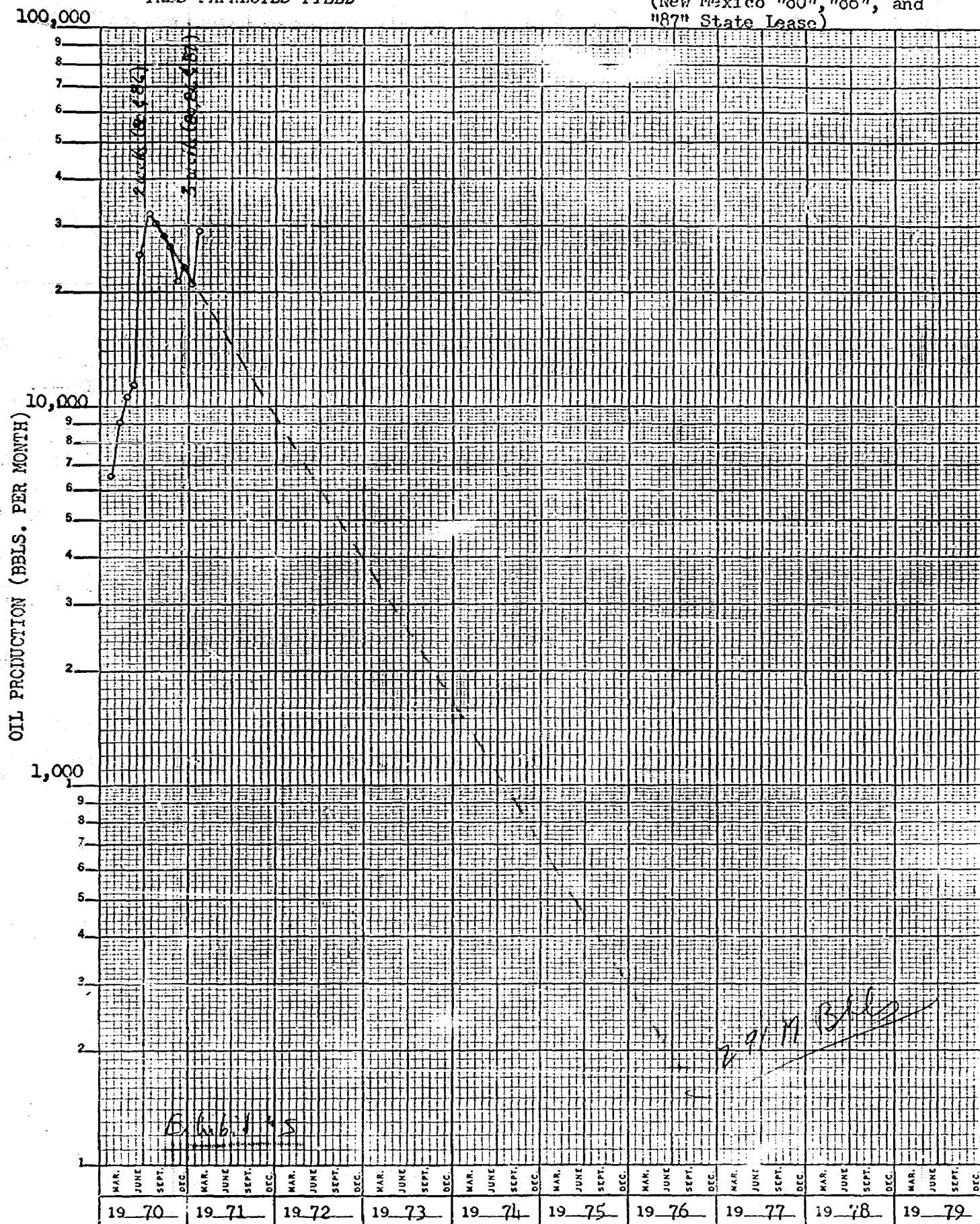
<u>OPERATOR</u>	<u>WELL NAME & NUMBER</u>	<u>OIL - BBL</u>
Lone Star Producing Company	New Mexico (80) State No. 1	170,872
Lone Star Producing Company	New Mexico (86) State No. 1	94,270
Lone Star Producing Company	New Mexico (87) State No. 1	11,516
Sun Oil Company	New Mexico "U" State No. 1	16,058
	TOTAL	292,716

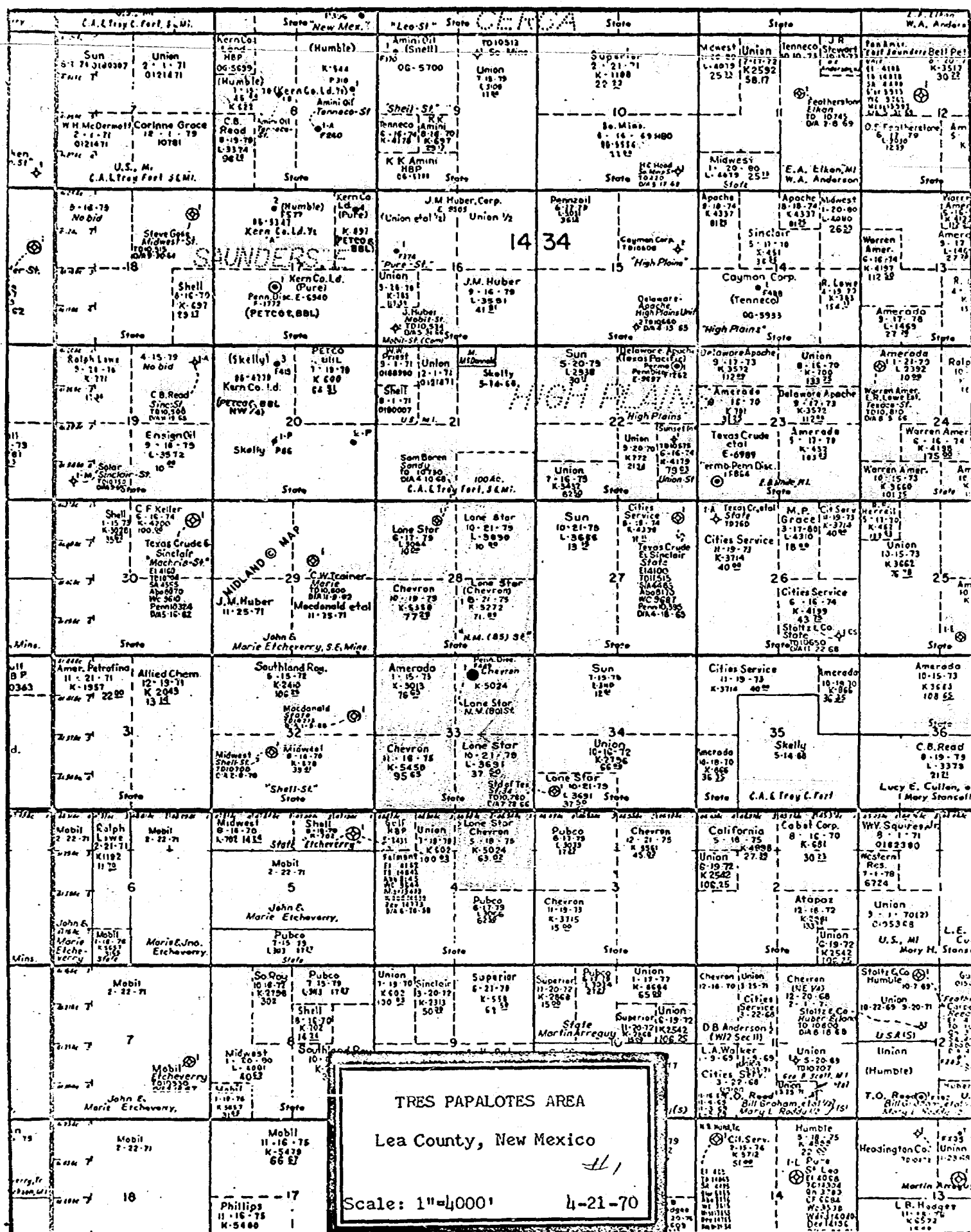
BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
Applicant's EXPIRY NO. 4
CASE NO. 4353

2.7 M³cf.
to date 3-1-71.
291,000 Bbls.

LONE STAR PRODUCING COMPANY
TRES PAPAOTES FIELD

COMPOSITE PRODUCTION GRAPH
(New Mexico "80", "86", and
"87" State Lease)





TRES PAPALOTES - PENNSYLVANIAN FIELD
RESERVOIR DATA AND RESERVE ESTIMATES

Porosity	5.38 %
Water Saturation.	18.50 %
Formation Volume Factor.	1.264
Recovery Factor (estimate).	35.00 %
Net Pay.	21'

Oil-in-place = $\frac{7758 \times 0.0538 \times 0.815}{1.264}$ = 269 Bbls. per acre ft.

- Recoverable Reserves = 269 x 35%
- = 94 barrels per acre foot
 - = 94 x 21'
 - = 1974 barrels per acre
 - = 79,000 bbls per 40 acres
 - = 158,000 bbls per 80 acres
 - = 316,000 bbls per 160 acres

ECONOMICS

Gross price per barrel.	\$ 3.31 per barrel
Working interest income at 0.7625.	2.52 per barrel
Operating cost, SWD cost and taxes.	1.00 per barrel
Net Working Interest Income.	1.52 per barrel

	40 Acres	80 Acres	160 Acres
Estimated recovery	79,000 Bbls.	158,000 Bbls.	316,000 Bbls.
Total net income	\$120,000	\$ 240,000	\$ 480,000
Development cost per well	\$230,000	\$ 230,000	\$ 230,000
Ratio of income to invest.	0.52	1.04	2.08

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
app - EXHIBIT NO. 4
CASE NO. 4353

CLARENCE E. HINKLE
W. E. BONDURANT, JR.
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.
STUART D. SHANOR
C. D. MARTIN
PAUL J. KELLY, JR.

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

April 15, 1970

MIDLAND, TEXAS OFFICE
521 MIDLAND TOWER
(915) MU 3-4691

TELEPHONE (505) 822-6510
POST OFFICE BOX 10

70 APR 16 AM 8 17

Case 4353

Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Gentlemen:

There is enclosed in triplicate application of Lone Star Producing Company for designation of a new pool and 160 acre spacing in connection with their State No. 1 well located in Section 23, Township 14 South, Range 34 East, Lea County.

The writer discussed this matter with your Mr. Nutter and it is our understanding that the case will be on the docket for the next examiner's hearing.

Yours very truly,

HINKLE, BONDURANT & CHRISTY

By 

CEH:cs

Enc.

cc: Lone Star Producing Company

DOCKET MAILED

Date 4-17-70

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF LONE STAR PRODUCING
COMPANY FOR DESIGNATION OF A NEW
POOL DUE TO DISCOVERY IN STATE NO.
1 WELL LOCATED IN UNIT B, SECTION 33,
TOWNSHIP 14 SOUTH, RANGE 34 EAST, LEA
COUNTY AND FOR PROMULGATION OF TEMPORARY
FIELD RULES PROVIDING FOR 160 ACRE SPACING
AND PRORATION UNITS.

Case 4353

Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

Comes Lone Star Producing Company, acting by and through the undersigned attorneys, and hereby makes application for designation of a new pool due to discovery in State No. 1 well located in Unit B, Section 33, Township 14 South, Range 34 East, Lea County and for promulgation of temporary field rules providing for 160 acre spacing and proration units, and in support thereof respectfully shows:

1. That applicant has heretofore drilled and completed the State No. 1 well located in Unit B, Section 33, Township 14 South, Range 34 East, N.M.P.M. which has been completed as a well capable of producing oil in paying quantities, said well being completed in the Saunders lime at a total depth of 10,663 feet, the perforated intervals being 10,468 to 10,474 feet and 10,481 to 10,488 feet. That applicant has heretofore filed Form C-109 with the Commission and has made application for a discovery allowable because of said well being located in a new pool.

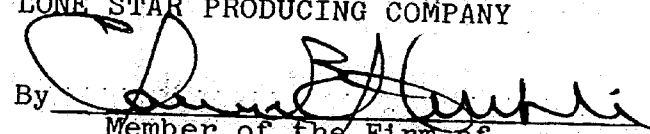
2. That due to the character of the production and the best geological information available to applicant, it is believed that said well will effectively and efficiently drain 160 acres or more and that it will prevent economic loss caused by the drilling of unnecessary wells and will avoid the augmentation of risk arising from the drilling of an excessive number of wells and will otherwise prevent waste and protect correlative rights to adopt temporary special pool rules and regulations providing for 160 acre spacing and proration units.

3. Applicant requests that this matter be set down for hearing at the next examiner's hearing.

Respectfully submitted,

LONE STAR PRODUCING COMPANY

By



Member of the Firm of
HINKLE, BONDURANT & CHRISTY
Attorneys for Applicant
Box 10
Roswell, New Mexico 88201

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

RECORDS CENTER

CASE No. 4353

Order No. R- 3963

APPLICATION OF LONE STAR PRODUCING
COMPANY FOR SPECIAL POOL RULES, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 29, 1970,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of May, 1970, 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, Lone Star Producing Company, seeks
the promulgation of special rules and regulations for the Tres
Papalotes-Pennsylvanian Pool, Lea County, New Mexico, including
a provision for 160-acre spacing and proration units.

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

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

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

(6) That this case should be reopened at an examiner hearing in *April*, 1971, at which time the operators in the subject pool should be prepared to appear and show cause why the Tres Papalotes-Pennsylvanian Pool should not be developed on ~~46-acre~~ *less than 160-acre spacing units* or ~~80-acre spacing units~~.

IT IS THEREFORE ORDERED:

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

SPECIAL RULES AND REGULATIONS
FOR THE
TRES PAPALOTES-PENNSYLVANIAN POOL

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

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

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

RULE 4. Each well shall be located *within 150 feet of the center of a governmental quarter-quarter section or 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 2.67 for

allowable purposes, and in the event there is more than one well on a 160-acre proration unit, the operator may produce the allowable assigned to the unit from the wells on the unit in any proportion.

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

IT IS FURTHER ORDERED:

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

June 1, 1970.

(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 Tres Papalotes-Pennsylvanian Pool shall have dedicated thereto 160 acres in accordance with the foregoing pool rules; or, pursuant to Paragraph C. of said Section 65-3-14.5, existing wells may have non-standard spacing or proration units established by the Commission and dedicated thereto.

Failure to file new Forms C-102 with the Commission dedicating 160 acres to a well or to obtain a non-standard unit approved by the Commission within 60 days from the date of this order shall subject the well to cancellation of allowable. Until said Form C-102 has been filed or until a non-standard unit has been approved, and subject to said 60-day limitation, each well presently drilling to or completed in the Tres Papalotes-Pennsylvanian Pool or in the Pennsylvanian formation within one mile

thereof shall receive no more than one-fourth of a standard allowable for the pool.

(3) That this case shall be reopened at an examiner hearing in April, 1971, at which time the operators in the subject pool may appear and show cause why the Tres Papalotes-Pennsylvanian Pool should not be developed on ^{less than 160-acre} ~~40-acre or 80-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.

DRAFT

GMH/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:

(RECORDS CENTER)

CASE No. 4353

Order No. R- 3963-A

APPLICATION OF LONE STAR PRODUCING
COMPANY FOR SPECIAL POOL RULES,
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on March 31, 1971,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this day of April, 19 71 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-3963, dated May 12, 1970,
temporary Special Rules and Regulations were promulgated for the
Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, estab-
lishing 160-acre spacing units for a period of one year.

(3) That pursuant to the provisions of Order No. R-3963,
this case was reopened to allow the operators in the subject
pool to appear and show cause why the Tres Papalotes-Pennsylvanian
Pool should not be developed on less than 160-acre spacing units.

-2-

CASE NO. 4353

ORDER NO. R-3963-A

(4) That the evidence establishes that one well in the Tres Papalotes-Pennsylvanian Pool can efficiently and economically drain and develop 160 acres.

(5) That the Special Rules and Regulations promulgated by Order No. R-3963 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 oil in the pool.

(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-3963 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 Tres Papalotes-Pennsylvanian Pool, Lea County, New Mexico, promulgated by Order No. R-3963, 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.

CASE 4354: Application of MICHAEL
P. GRACE & CORINNE GRACE FOR
COMPULSORY POOLING, EDDY COUNTY.

TO SEPTEMBER 16, 1970