

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

6 August 1986

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Producing Texas CASE
and New Mexico, Inc., for pool 8949
creation, special pool rules, dis-
covery allowable, and an unorthodox
oil well location, Lea County, New
Mexico.

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation	Jeff Taylor
Division:	Attorney at Law
	Legal Counsel to the Division
	State Land Office Bldg.
	Santa Fe, New Mexico 87501

For the Applicant:	William F. Carr
	Attorney at Law
	CAMPBELL & BLACK P. A.
	P. O Box 2208
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MR. STOGNER: Call Case 8949.

MR. TAYLOR: Application of Mobil Producing Texas and New Mexico, Incorporated, for pool creation, special pool rules, discovery allowable, and an unorthodox oil well location, Lea County, New Mexico.

MR. STOGNER: This case was heard at the July 23rd, 1986 hearing to allow the applicant to satisfy their notification requirement set out in the general rules.

This case was continued for today's hearing to allow any additional testimony and/or comments.

MR. CARR: Mr. Stogner, as you will recall -- I'm -- Mr. Stogner, I'm William F. Carr of the law firm Campbell and Black. We represent Mobil Producing Texas and New Mexico, Inc.

As you will recall, two weeks ago we advised you that notice of this case was provided on July 1 to all interest owners within one mile of the discovery well in this new pool.

The rules provide that notice shall be provided to all interest owners within the proposed pool boundaries and all interest owners within a mile of those boundaries.

Consequently, there were a few interest owners on the fringe who had not received notice. Additional notice was provided to those individuals on July 10. The case was continued so that we could provide proper notice and there would be time for those interest owners to appear and object if there was any objection.

I have today copies of all notice that has been given in this case with return receipts, and so at this time, Mr. Examiner, I would offer into evidence Mobil Exhibit A, which is simply copies of the notice that has been provided.

MR. STOGNER: Exhibit letter A
will be admitted into evidence.

MR. CARR: And I have nothing further in this case.

MR. STOGNER: Does anybody else have anything further in Case Number 8949?

If not, this case will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY
CERTIFY that the foregoing Transcript of Hearing before the
Oil Conservation Division (Commission) was reported by me;
that the said transcript is a full, true, and correct record
of the hearing prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 8949
heard by me on 6 August 19 86.

Michael E. Stogor, Examiner
Oil Conservation Division

10/15/86

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

23 July 1986

EXAMINER HEARING

IN THE MATTER OF:

Application of Mobil Producing Texas CASE
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covery allowable, and an unorthodox
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A P P E A R A N C E S

For the Oil Conservation	Jeff Taylor
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I N D E X

ROBERT GUDRAMOVICS

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GLENN BANKSON

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Mobil Exhibit Five, Plat 17

Mobil Exhibit Six, Data 20

Mobil Exhibit Seven, Calculations 21

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MR. STOGNER: Call next Case
Number 8949.

MR. TAYLOR: Application of
Mobil Producing Texas and New Mexico, Incorporated, for pool
creation, special pool rules, discovery allowable, and unorthodox oil well location, Lea County, New Mexico.

MR. CARR: May it please the
Examiner, my name is William F. Carr with the law firm
Campbell & Black, P. A., of Santa Fe.

We represent Mobil Producing
Texas and New Mexico, Inc., in this case and we have two
witnesses.

MR. STOGNER: Are there any
other appearances in this matter?

There being none, will the witnesses please stand and be sworn?

(Witnesses sworn.)

ROBERT GUDRAMOVICS,
being called as a witness and being duly sworn upon his
oath, testified as follows, to-wit:

DIRECT EXAMINATION

1
2 BY MR. CARR:

3 Q Would you state your full name and place
4 of residence?

5 A My name is Bob Gudramovics, and my place
6 of residence is Midland, Texas.

7 Q By whom are you employed and in what cap-
8 acity?

9 A I'm employed by Mobil Producing Texas and
10 New Mexico, Incorporated, as a production geologist.

11 Q Have you previously testified before this
12 Division and had your credentials accepted and made a matter
13 of record?

14 A Yes, I have.

15 Q And were you qualified as a production
16 geologist at that time?

17 A Correct.

18 Q Are you familiar with the application
19 filed in this case on behalf of Mobil?

20 A Yes, I am.

21 Q And are you familiar with the discovery
22 well?

23 A Yes.

24 MR. CARR: Are the witness'
25 qualifications acceptable?

1 MR. STOGNER: They are.

2 Q Would you briefly state what Mobil seeks
3 with this application?

4 A Okay. Mobil seeks the creation of a new
5 field discovery and an unorthodox location and special --
6 basically 80-acre (unclear).

7 Q And a discovery allowable?

8 A And a discovery allowable.

9 Q Have you prepared certain exhibits for
10 introduction in this case?

11 A Yes, I have.

12 Q Would you refer to what has been marked
13 as Mobil Exhibit Number One, and you may want to go to the
14 wall and first identify the exhibit and review the informa-
15 tion contained on that exhibit for Mr. Stogner?

16 A Exhibit Number One is an Easter Field
17 area discovery plat. It's a one inch equals 1000 foot
18 scale. It shows the two mile circle around the discovery
19 well, which is located in Township 17 South, Range 35 East,
20 Section 1, 823 feet from the north line and 581 feet from
21 the east line, in Lea County, New Mexico.

22 It also indicates the production within
23 this two mile circle; the red dots designating San Andres
24 production. Most of that is from the -- located to the
25 southeast from Texaco's West Lovington Unit. It indicates

1 some Permo Penn production, designated by the yellow dots ,
2 which you can see are scattered throughout, and it also in-
3 dicates nearby Devonian production within the area. The De-
4 vonian production is basically from the Shoe Bar Field, lo-
5 cated northwest of the discovery well. This yellow line I
6 have marked off on this map indicates the maximum limit of
7 Devonian production for that field at the time of discovery,
8 and to the northeast this blue line indicates the Shoe Bar
9 Field and the maximum limit of the Devonian production at
10 that time.

11 Also this map here indicates all the
12 current lease owners within the area.

13 Q Now in the center of the exhibit is the
14 discovery well?

15 A That's correct.

16 Q And the green block around that indicates
17 what?

18 A Indicates the 80 acres we'd like to as-
19 sign to this well.

20 Q Now, on that exhibit you have indicated
21 there is a Lovington Deep Drilling Unit.

22 A That's correct.

23 Q Would you explain that to Mr. Stogner?

24 A The Lovington Deep Drilling Unit is lo-
25 cated in the east half of Section 1, the west half of Sec

1 tion 6, and the southeast quarter of Section 36.

2 Basically what it was is when Mobil shot
3 the seismic and identified the structure, we approached
4 Yates and Amoco, who also, we feel, had productive acreage,
5 and in order to split the risks of this exploration well, we
6 decided to form a drilling unit.

7 Q If at a later time development in this
8 area reverted to 40-acre spacing, would that cause any ad-
9 justment in the --

10 A No, it wouldn't.

11 Q And that's because you have formed a
12 drilling unit going in.

13 A That's correct.

14 Q Are there proposed locations indicated on
15 this plat for subsequent development?

16 A Yes, there are. Currently we are drill-
17 ing at about 4000 feet, the Mobil Lovington Deep Amoco State
18 Well, and we have permitted the Mobil Lovington Deep State
19 Well to the north of our discovery well.

20 Q Are there dry holes in this area?

21 A Yes, there are and they're indicated by
22 the dry hole symbols.

23 Q Are there wells symbols on this plat
24 where wells are, say, producing from other horizons that
25 tested the Devonian?

1 A Yes, there are. This well, located in
2 the southeast quarter of Section 35 drilled down to the
3 Devonian and I do have it on the cross section; went down to
4 the Devonian and tested it wet and recompleted in the Permo
5 Penn, and basically that delineates the furthest limit of
6 the Shoe Bar Field.

7 Also in the Shoe Bar East Field, this
8 well located in the northwest quarter of section 31 also
9 went down to the Devonian and tested it wet and recompleted
10 into the Permo Penn formation.

11 Q On this exhibit you've indicated the pro-
12 ductive limits of these two pools, the Shoe Bar and the Shoe
13 Bar East, at the time of discovery.

14 Would you provide or describe for Mr.
15 Stogner the pool boundaries for each of these pools as set
16 forth in Oil Conservation Division Rules?

17 A Sure. The Shoe Bar Devonian Field
18 includes Township 16 South, Range 36 East, Section 36, the
19 east half of Section 36.

20 It also includes Section 27, the east
21 half of Section 34, Section 35, and excuse me, Section 26,
22 the east half of Section 27, the east half of Section 34,
23 Section 35, and the west half of Section 36.

24 Q So the pool boundary as defined for the
25 Shoe Bar Field corners the acreage that is dedicated to the

1 subject well.

2 A Yes, it does; however, the west half of
3 Section 36 has two dry holes in it. One well which drilled
4 down to 12,615 feet did not penetrate the Devonian.

5 The second well only TD'ed at 5,303 feet.

6 Q What are the boundaries of the Shoe Bar
7 East as defined by the Division?

8 A Okay, the Shoe Bar East is located in
9 Township 16 South, Range 36 East, Lea County, New Mexico,
10 includes the west half of Section 29, the south half of Sec-
11 tion 30, the north half of Section 31, and the northwest
12 quarter of Section 32.

13 Q Would you provide Mr. Stogner with the
14 exact location of the discovery well?

15 A Okay. The discovery well again is lo-
16 cated in Township 17 South, Range 35 East, Section 1, in Lea
17 County, New Mexico, and within that section it's located 823
18 feet from the north line and 581 feet from the east line.

19 Q Mr. Gudramovics, would you now go to Ex-
20 hibitNumber Two, identify this, and review it for the exa-
21 miner?

22 A Okay. Exhibit Number Two is a structure
23 map off of the top of the Devonian. Contour interval is 100
24 feet; scale is one inch equal to 1000 feet. It delineates
25 our -- it indicates our discovery well. It delineates the

1 area which we're designating as the Easter Field. It also
2 demonstrates the separate structure of the Shoe Bar Field,
3 located to the northwest, and it also indicates the separate
4 structure of the Shoe Bar East Field, located to the
5 northeast.

6 Q You've indicated some faults coming
7 through there.

8 A Yes, I have. We are basically located in
9 a horst block and we are within the same horst block as the
10 Shoe Bar Field to the northwest; however, there is a saddle
11 separating the two of us; however, we are separated by a
12 very large graben between the Easter Field and the East Shoe
13 Bar Field.

14 Q And the Easter -- the Easter Field is a
15 name that Mobil is applying to the field for in-house pur-
16 poses.

17 A That's correct.

18 Q The faults on this exhibit explain why no
19 acreage in Section 31 was included within the drilling area.

20 A That's correct. We didn't -- we still
21 feel at this time it's not Devonian.

22 Q Would you now go to Exhibit Number Three,
23 which is your cross section A-B, and review this for Mr.
24 Stogner?

25 A Okay. Exhibit Number Three is a cross

1 section, a structural cross section, basically running from
2 our Easter Field discovery well to the northwest towards the
3 Shoe Bar Field. The name of the wells included in the cross
4 section are indicated on the top. The various tests that
5 were performed on the well are indicated on the bottom of
6 the cross section.

7 This green line I have right here with
8 the Devonian -- near the top of the Devonian is basically
9 just to highlight the top of the Devonian. It does not in-
10 dicate oil production there.

11 In addition, what I'd like to point out
12 is, as you can see, there's a saddle between the Easter
13 Field and the Shoe Bar Field to the northwest. There's an
14 oil/water contact indicated on our Lovington Deep Unit.
15 This oil/water contact is the height that the oil/water con-
16 tact can be. When we drilled our well we did not encounter
17 an oil/water contact.

18 Also I'd like to point out that this
19 Western Natural Gas Company Ramco State No. 2 was drilled to
20 the Devonian in March of 1954 and they swabbed 100 percent
21 water out of the Devonian and at this location they are
22 structurally higher than the Devonian production that we
23 have in our Easter Field. So there is obviously a separate
24 oil/water contact and they are located at different (un-
25 clear).

1 Q Would you now go to Exhibit Number Four,
2 which is cross section B-C, and review that, please?

3 A Cross Section B-C runs basically from our
4 Lovington Deep discovery well to the northeast to the East
5 Shoe Bar Field. The discovery well is located on the left
6 side of the map and again the name of the wells used in the
7 cross section are indicated on the top with their locations,
8 the type of (unclear) is also indicated on top and various
9 tests and/or perforations that the wells -- that have been
10 performed on the wells are indicated below, and basically
11 this, this map demonstrates, shows, indicates our Lovington
12 Deep discovery well, where the top of the Devonian is. It
13 shows the dry hole, the Stanolind Oil Company dry hole,
14 showing how much significantly deeper the Devonian is lo-
15 cated in this well, indicating the graben and then also as
16 you go to the Shoe Bar East Field, this Jack Hammond Well
17 DST'ed some oil in the Devonian and again this is on the
18 outer limits of the East Shoe Bar Field, but they never com-
19 pleted the well in the Devonian because it was very close to
20 the oil/water contact, and then again we have a productive
21 well right here on the top of the Shoe Bar Field.

22 Oh, I'm glad you noticed that. I'd like
23 to correct the fact that on this cross section they indi-
24 cated 15,000 foot perforation. That's actually 12,620 feet
25 (inaudible)

1 Q That's the first log on cross section B-
2 C.

3 A That's correct.

4 Q And it's the last perforation indicated
5 on that exhibit.

6 A That's correct.

7 Q Under that log.

8 A And that's the -- I think -- I believe
9 the correct perms are marked on that, the first cross sec-
10 tion A-B.

11 Q Now based on your study of this area,
12 what conclusions can you reach about the subject well?

13 A Okay. The general conclusions I can
14 reach are that obviously we are very much separated from --
15 the Easter Field is very much separated from the East Shoe
16 Bar Field. We have two dry holes located between them, and
17 there is a very major structural graben located between us
18 and the Shoe Bar East Field.

19 The conclusions I can draw from the sep-
20 aration between the Easter Field and the Shoe Bar Field is
21 that we are within the same fault block; however, seismical-
22 ly, as well as well control, indicates that there's a saddle
23 located between us and therefore we are a separate struc-
24 ture.

25 Q And you also have a well in between the

1 two that encountered water in the Devonian.

2 A That's correct.

3 Q Were Exhibits One through Four prepared
4 by you?

5 A Yes, they were.

6 MR. CARR: At this time, Mr.
7 Stogner, we would offer Exhibits One through Fours.

8 MR. STOGNER: Exhibits One
9 through Four will be admitted into evidence.

10 MR. CARR: That concludes my
11 direct examination of this witness.

12

13 CROSS EXAMINATION

14 BY MR. STOGNER:

15 Q Okay, let's refer to Exhibit Number One
16 here. The Shoe Bar Pool, as I understand it, includes the
17 east half of Section -- I'm sorry, the west half of Section
18 36.

19 A That's correct.

20 Q Do you know why that was included in that
21 pool?

22 A I have no idea, sir.

23 Q There's no --

24 A I don't seen any productive -- any pro-
25 ducing well at all located in that section, that west half

1 of Section 36.

2 Q The closest Devonian production is more
3 than a mile from your proposed pool limits, is that correct?

4 A That's correct, and in fact, as will go
5 on later on, most of these wells here have been P&A'ed.

6 Q Do you know in the Shoe Bar, Devonian
7 Shoe Bar Pool, is that 40 or 80 acre spacing in that par-
8 ticular pool?

9 A I believe our reservoir engineer will --

10 Q Oh, okay.

11 A -- describe that.

12 Q I'll hold off that question for awhile.

13 MR. STOGNER: I have no further
14 questions of this witness.

15 Are there any other questions
16 of this witness?

17 If not, he may be excused.

18 Thank you, Mr. Carr.

19

20 GLENN BANKSON,

21 being called as a witness and being duly sworn upon his
22 oath, testified as follows, to-wit:

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DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your full name and place of residence?

A My name is Glenn Bankson and I live in Midland, Texas.

Q Mr. Bankson, by whom are you employed and in what capacity?

A I'm employed by the Mobil Oil Corporation as a reservoir engineer.

Q Have you previously testified before this Division as a reservoir engineer and had your credentials accepted and made a matter of record?

A Yes, I have.

Q Are you familiar with the application filed in this case on behalf of Mobil?

A Yes, I am.

Q Are you familiar with the subject well?

A Yes, sir.

MR. CARR: Are the witness' qualifications acceptable?

MR. STOGNER: They are.

Q Mr. Bankson, do you have copies of your exhibits with you?

1 A Right here in front of me.

2 Q Will you refer to what has been marked as
3 Mobil Exhibit Number Five, identify this, and review it for
4 Mr. Stogner?

5 A Mobil's Exhibit Number Five is a copy of
6 the structure map which Bob Gudramovicz has already presen-
7 ted.

8 On the -- on this structure map I've
9 highlighted two wells and these two wells are the only two
10 Devonian wells that are still producing in the Shoe Bar and
11 Shoe Bar East Fields. There's one well in each field that
12 are still producing.

13 Q When were the other wells in the --
14 let's look at the Shoe Bar Field first -- when were the
15 other wells in that pool plugged and abandoned?

16 A The -- just go back a little bit further,
17 in the East Shoe Bar Field the wells were drilled in 19 --
18 in the mid-1950s and by 1969 they were abandoned; all the
19 wells that were drilled up to that time had been abandoned
20 or recompleted up in the Pennsylvanian or another zone.

21 In 1982 Mitchell -- Kennedy and Mitchell
22 came in and drilled two wells on the highest part of the
23 structure. You can see that one of them, the northern of
24 the two wells is the one that I have highlighted in red
25 there and the other one is at -- within that top structure

1 line there.

2 Going over to the East Shoe Bar Field,
3 those wells were all drilled in 1969 and early 1970. The
4 wells were, all except for the one well that is still pro-
5 ducing there, the rest of them were all abandoned in 1980
6 and through 1982.

7 The point we'd like to make with this --
8 with this particular exhibit is that although the -- the
9 designated limits of the field and the pool come pretty
10 close to our -- our -- the area that we're designating as
11 the Easter Field, the actual production is quite a bit more
12 than a mile from the well we have (unclear).

13 Q No, Mr. Bankson, if we look at the Shoe
14 Bar Field, the wells in that pool were plugged and abandoned
15 some time ago.

16 A Yes, before 1970.

17 Q And then more recently, early 1980's,
18 Kennedy and Mitchell drilled two wells.

19 A That's correct.

20 Q The one well that is shaded in red is
21 currently producing.

22 A That is correct.

23 Q And that is the only well producing from
24 the Devonian in that pool at this time.

25 A That's right.

1 Q And likewise, if we go over to the east
2 Shoe Bar, the well shaded in red is the only producer in
3 that pool at this time.

4 A That is correct.

5 Q Would you now refer to the documents
6 which are attached to Exhibit Five and just briefly review
7 those for Mr. Stogner?

8 A The -- I've attached to that particular
9 exhibit some supporting data for -- for the testimony that I
10 just presented.

11 The first two pages are just the produc-
12 tion graphs, production charts for the Kennedy and Mitchell
13 wells over there in the Shoe Bar Field. It shows that the
14 first graph is the well that is still producing and the
15 second graph is -- shows the well to the south of that first
16 well, which was abandoned in 1985.

17 As further supporting data, I have the
18 annual reports which we used to get our production data
19 from, from New Mexico here, and I started that one back in
20 19 -- I just went back to 1981, and in 1981 the Shoe Bar
21 Devonian Field is listed as abandoned, and then in 1982 it
22 shows where Kennedy and Mitchell's two wells came in and
23 started to produce, and then in 1985 it's just the current
24 condition that shows the two fields and the fact that at
25 this time we only have the one well in each of the fields

1 that is still producing.

2 Q And from this exhibit you can see that
3 there is no production in the Devonian for more than a mile
4 from the subject well.

5 A That is correct.

6 Q Would you now refer to what has been mar-
7 ked Exhibit Number Six and review for Mr. Stogner the reser-
8 voir lifting mechanism in this area?

9 A The -- as soon as we found out that we
10 were -- we had a good well and a possible drill discovery
11 here, we started getting reservoir information. The first,
12 one of the first things we got was a reservoir fluid analy-
13 sis. What the fluid analysis showed us was that the bubble
14 point pressure was approximately 2466 pounds. The original
15 pressure, which results from a build-up test, pressure
16 build-up test, is approximately 5000 pounds. This means
17 that we are producing above the bubble point by fluid expan-
18 sion. That is one mechanism that we feel we're producing
19 with under this particular well.

20 The other one is, we have gone and re-
21 viewed the production histories of the wells in the Shoe Bar
22 and in the East Shoe Bar Field, which we think we can use as
23 analogies, and the implication that we get from those wells
24 is that there was a lot of water being produced and certain-
25 ly towards the end the wells were shut in because of water

1 production. We feel that there's a good possibility that
2 there's a fairly strong water drive over there, which is not
3 untypical for Devonian wells in this area.

4 Q In your opinion will the Lovington Deep
5 State No. 1 Well drain 80 acres or more?

6 A Yes, in my opinion it will. We -- we
7 state that on the fact that, first of all, we feel like
8 there's a good water drive.

9 Second of all, we've gone through our
10 pressure tests on this well and we calculate that the
11 average permeability is approximately 12 millidarcy.

12 Q Now are these calculations set forth on
13 Mobil Exhibit Number Seven?

14 A Yes, they are.

15 Q All right.

16 A Referring to our Exhibit Number Seven,
17 Exhibit Number Seven is just a kind of a calculation sheet
18 that we used to do the calculations that resulted from our
19 pressure build-up analysis.

20 The main thing that we wanted to show as
21 far as the -- our feeling that this particular well will
22 drain more than -- or at least 80 acres, the bottom of the
23 calculations, one of the calculations that you can make from
24 the pressure build-up analysis is that -- an area of
25 investigation.

1 The area of investigation that we came up
2 with on this particular build-up for the Lovington Deep No.
3 1 was approximately 250 acres. Now we're not in any way
4 suggesting that this 200 -- that the well can -- should be
5 -- that the wells should be drilled on 250-acre locations,
6 we're using this as an indication that the -- that the wells
7 out here can produce and drain at least 80 acres and it is
8 our feeling that after the -- after the period that we are
9 asking for for temporary rules, we'll have drilled several
10 more wells and we'll be able to -- to qualify and add more
11 information to this for some positive recommendations on
12 this.

13 Q Do you have some pressure information
14 from the subject well?

15 A We do have a pressure build-up analysis
16 on the - on the subject well, and in addition we have gone
17 to the other wells in the Shoe Bar and the East Shoe Bar
18 Field to find out what corroborating pressure data we could
19 find over there.

20 The -- we have found that the pressure
21 that we came up with on this, on our new wells, on the Lov-
22 ington Deep No. 1, was approximately 5000 pounds.

23 The only thing we were able to find on
24 the other wells, on the other Shoe Bar and East Shoe Bar
25 Fields, was DST analysis, and the pressures that came up,

1 that we came up with on those DST's indicated that they also
2 had the pressures in the range of approximately 5000 pounds.

3 The -- the significance of the pressure
4 is somewhat -- it's, well, you can't come up with a true or,
5 well, let me rephrase myself here.

6 The significance of the pressure build-up
7 is probably in question because we think that there's a
8 strong water drive up there that's, of course, replacing all
9 the production and maintaining a pressure in the area, but
10 our feelings are that -- that -- from our look at the pres-
11 sures that we were able to come up with, that we do have a
12 virgin reservoir, that it has not been reduced in pressure
13 by the production from the offset fields.

14 Q The DST pressures that you were able to
15 obtain on the fields to the north, those were pressures ob-
16 tained early in the life of those two pools, is that cor-
17 rect?

18 A Yes, that's correct.

19 Q What sort of permeability and porosity do
20 you have in the subject well?

21 A We have a porosity of 7 percent and per-
22 meability of approximately 12 millidarcies.

23 Q And what is the source of those figures?

24 A The porosity comes off the log calcula-
25 tions and the permeability comes off of our pressure build-

1 up analysis.

2 Q Now, Mr. Bankson, if I understand your
3 testimony, your calculated area of investigation, your pres-
4 sure information, and the porosity and permeability that
5 you've encountered, none of these alone would conclusively
6 establish that 80-acre spacign was appropriate.

7 A No, but they -- they are the basis for
8 our feeling at this time that we can drain at least 80 acres
9 and we would submit that in the time that we're asking for
10 these temporary rules, that we will be able to provide addi-
11 tional data.

12 Q For what period of time are you seeking
13 temporary rules?

14 A Eighteen months.

15 Q What is the acreage that you are
16 requesting initially be dedicated or included within the
17 pool?

18 A We are -- 80 acres, and that the location
19 -- the location is in the north half of the northeast sec-
20 tion of Section 1.

21 Q And it's the acreage that's outlined in
22 --

23 A Yes, sir, in -- in blue or aqua.

24 Q On Exhibit One.

25 A Exhibit One, right.

1 Q What name does Mobil request be given to
2 the new pool?

3 A We are requesting that that pool be
4 called the Easter Pool, Easter Devonian.

5 Q As to well location requirements within
6 this pool, does Mobil request that the wells be located
7 within 150 feet of the center of either quarter quarter in
8 each 80-acre spacing unit?

9 A That is correct.

10 Q Does Mobil also request that the existing
11 well and any wells drilling that may not be within that 150-
12 foot area be grandfathered in?

13 A That is correct. Our first well is just
14 slightly, about 15 feet out of that circle.

15 Q In your opinion will granting this
16 application and establishing temporary pool rules for an 18-
17 month period of time that provide for 80-acre spacing and
18 special well location requirements, will granting the
19 application containing these provisions be in the best
20 interest of conservation, the prevention of waste, and the
21 protection of correlative rights?

22 A I do.

23 Q Were Exhibits Five through Seven prepared
24 by you?

25 A They were.

1 MR. CARR: At this time, Mr.
2 Stogner, we would offer Mobil Exhibits Five through Seven.

3 MR. STOGNER: Exhibits Five
4 through Seven will be admitted into evidence.

5 MR. CARR: That concludes my
6 direct examination of Mr. Bankson.

7 And, Mr. Stogner, before you
8 cross examine Mr. Bankson, I'd like to comment on the notice
9 that was provided in this case.

10 As we previously advised,
11 notice was provided on July 1 to all interest -- all opera-
12 tors and unleased mineral owners within a mile of the sub-
13 ject well.

14 It was shortly after that that
15 we discovered that the notice had to go to all of those
16 owners within a mile of the acreage to be dedicated to the
17 well or the new pool boundary, and therefore, on the 10th of
18 July additional notice was provided to those few interest
19 owners on the west that needed to also receive notice.

20 We've gone ahead with the hear-
21 ing today and we will request that it be -- the record be
22 left open and be continued to August the 6th. In the in-
23 terim we will provide you with the return receipts and
24 copies of the letter so that you will be satisfied that
25 notice has been given in accordance with Rule 1207.

1 MR. STOGNER: How many more
2 notifications are we talking about from what was originally
3 sent out on July 1st?

4 MR. CARR: I don't know the
5 exact number but it was not a large number because what in
6 effect we had to do was go further to the west giving no-
7 tice, because we had a laydown unit.

8 MR. BANKSON: Four or five.

9 MR. CARR: Four or five people.
10 And they have been notified. They were notified by certi-
11 fied mail on the 10th.

12 MR. STOGNER: Okay, we will
13 continue this case to August 6th to satisfy those require-
14 ments.

15

16 CROSS EXAMINATION

17 BY MR. STOGNER:

18 Q Mr. Bankson, a few questions about the
19 old Shoe Bar Devonian Pool. Do you know if that was devel-
20 oped in 40 or 80-acre spacing?

21 A The Shoe Bar Devonian was developed on
22 forties and the East Unit was developed on 80 acres.

23 Q To run by the special field rules, if I
24 got these down right, you want 18 -- 18 month temporary
25 period on them, 80-acre spacing, and the footage, 150 foot

1 in either quarter quarter section?

2 A Yes, that's correct.

3 Q And a grandfather clause so that this
4 particular well will be considered, although it is nonstand-
5 ard pursuant to the proposed rules, would be grandfathered
6 in, is that correct?

7 A That's right, yes, sir.

8 Q Is there anything else I've missed?

9 MR. CARR: Mr. Stogner, the
10 well that is currently drilling might also be 15 feet out or
11 --

12 A The well we're currently -- the -- one of
13 the wells we have proposed and have a permit to drill is --
14 is out of that circle also.

15 Q But a grandfather clause would take care
16 of the certain wells okay.

17 Where did the name Easter come from?

18 A I believe it's when the -- when the ex-
19 ploraiton geologist was out there was approximately Easter-
20 time, and I presume he would have rather been somewhere else
21 besides out there, so we feel that --

22 MR. CARR: That's the name he
23 gave it.

24 Q It's nice that he wasn't out there on Oc-
25 tober 31st.

1 Do you know or are you aware that there's
2 a South Shoe Bar Devonian Pool out there anywhere?

3 A The South Shoe Bar Devonian I wasn't fam-
4 iliar with.

5 I was familiar with the North Shoe Bar
6 Field.

7 Q So you don't know if there is a South
8 Shoe Bar?

9 A I have not seen any --

10 Q So that may -- might accidentally still
11 be open.

12 A Oh, you mean for our particular field?

13 Q Yeah.

14 A We have a second name on our -- only on,
15 you know, these applications we fill out, there's a primary
16 requested name and then a secondary and the secondary was
17 Shoe Bar Southeast.

18 Q Oh, Shoe Bar Southeast, okay.

19 Thank you, Mr. Bankson, I appreciate
20 that. I have no further questions of this witness.

21 Are there any other questions of Mr.
22 Bankson?

23 MR. CARR: Nothing further.

24 MR. SCOTT: Mr. Stogner, I have
25 a question.

1 My name is Jim Scott. I'm with
2 Kriti Exploration. We're an offset operator here.

3 I'd like to ask Mr. Bankson, if
4 I may --

5 MR. STOGNER: What is your af-
6 filiation with Kriti?

7 MR. SCOTT: I'm Vice President
8 of Exploration for Kriti.

9 MR. STOGNER: Mr. Carr, do you
10 have any objection?

11 MR. CARR: No objection.

12 MR. STOGNER: Mr. Scott?

13 MR. SCOTT: Mr. Bankson, the
14 pressure build-up test that you accomplished in your well
15 had a radius of investigation of approximately how far?

16 A Approximately 1875 feet, I believe. I
17 have it written down on our data sheet here. The area en-
18 compassed in it was 250 acres. 1875 feet, yes, sir.

19 MR. SCOTT: Would that, if you
20 were to spin a radius on your well, would that go outside
21 the fault that you've indicated?

22 A It would come pretty close to that fault
23 I feel sure. That was one of the first things that we were
24 looking for was the fault itself, and we did not get any in-
25 dication on the pressure build-up analysis that the fault

1 was there.

2 Our subsequent discussions on that indi-
3 cated that the, because of the nature of the geology in the
4 graben or the horst, that there might be a fracture trend in
5 some of these formations that we find that might be orien-
6 tated (sic) parallel to that main structure, that main fault
7 there, and that the influence that we got on our pressure
8 analysis was parallel rather than going over to the -- over
9 to the fault itself.

10 This is pretty much speculation at this
11 point on our part and we intend to gather more information
12 to determine that.

13 MR. SCOTT: Well, Mr. Bankson,
14 an 1800 foot radius would be approximately twice the
15 distance from the fault to the well, --

16 A Yes, sir.

17 MR. SCOTT: -- is that correct?

18 A Yes, sir, but as you know, the radius of
19 investigation on a build-up pressure has a lot to do with
20 the way you calculate your standard production rate before
21 you -- before you shut the well in and start taking your
22 pressures.

23 We -- we did the best, I think, that we
24 could on this and the only thing I could tell you is that
25 the fault did not come up within that -- on our -- on our

1 pressure analysis.

2 MR. SCOTT: Okay, one last
3 question, Mr. Bankson.

4 A fault of this magnitudes, you
5 would anticipate a considerable change in slope, is that
6 correct?

7 A Yes, sir, and if -- if we had indeed a
8 radial drainage --

9 MR. SCOTT: Homogeneous --

10 A Yeah, homogeneous and all the -- all the
11 perfect factors in the reservoir, you would expect an in-
12 crease in the pressure. You'd have flat period and then
13 you'd have the increase which would indicate that you've
14 (unclear) the fault out there.

15 MR. SCOTT: Mr. Stogner, no
16 more questions of Mr. Bankson.

17 I'd like to ask Mr. -- Mr. Bob
18 a question, if I may.

19 MR. STOGNER: Mr. who?

20 MR. BANKSON: Mr. Gudramovics.

21 MR. STOGNER: Mr. Carr? Any
22 objection?

23 MR. CARR: No, I don't have any
24 objection.

25 MR. SCOTT: The interpretation

1 that you indicated shows considerable seismic control for
2 the placement of that fault. We were looking at the exhi-
3 bit, a little bit concerned because the interpretation shows
4 the fault exactly at our lease line; not to the north of the
5 lease line, not to the south of the lease line, but exactly at
6 the lease line.

7 Do you have any data that you
8 could show us today to support the location of the fault?

9 MR. GUDRAMOVICS: I haven't
10 brought any seismic data with me at all.

11 May I make one point, however?

12 MR. SCOTT: Sure.

13 MR. GUDRAMOVICS: At the time,
14 in all honesty, if we thought the acreage there to the
15 southwest quarter, your acreage in Section 36, I believe,
16 was productive, we certainly would have approached you with
17 it.

18 As I have said earlier in my
19 statement this was an exploration well, and in order to
20 spread the risk we approached everybody who had acreage that
21 we thought productive, and that fault is identified with a
22 line of seismic.

23 MR. SCOTT: Would that data be
24 available to me?

25 MR. GUDRAMOVICS: I'm not in a

1 position to --

2 MR. SCOTT: No problem.

3 MR. GUDRAMOVICS: That is
4 proprietary data.

5 MR. SCOTT: That's fine. Thank
6 you very much.

7 MR. STOGNER: You're welcome,
8 Mr. Scott.

9 Any -- I have no further ques-
10 tions of this witness so I guess both witnesses are con-
11 sidered dismissed.

12 Mr. Carr, anything further in
13 this case?

14 MR. CARR: Nothing further, Mr.
15 Stogner.

16 MR. STOGNER: Does anybody else
17 have anything further in Case Number 8949 at this time?

18 We will continue this case un-
19 til the Examiner's Hearing scheduled for August 6th, 1986,
20 pending the waivers, return receipts from the other parties
21 that were -- needed to be notified. At that time we will
22 recall this hearing.

23 That concludes Case Number 8949
24 for today.

25

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY
CERTIFY the foregoing Transcript of Hearing before the Oil
Conservation Division (Commission) was reported by me; that
the said transcript is a full, true, and correct record of
the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 8949
heard by me on 23 July 1986.

Michael J. Hayes Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

30 March 1988

EXAMINER HEARING

IN THE MATTER OF:

Cae 8949 being reopened pursuant to CASE
the provisions of Division Order No. 8949
R-8279, Lea County, New Mexico.

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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Legal Counsel to the Division
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I N D E X

JAMES L. BEAVER, JR.

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C. J. HAMNER

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Cross Examination by Mr. Stogner 20

E X H I B I T S

Mobil Exhibit One, Map 6

Mobil Exhibit Two, Structure Map 6

Mobil Exhibit Three, Index Map 8

Mobil Exhibit Four, Cross Section A-A' 8

Mobil Exhibit Five, Cross Section B-B' 9

Mobil Exhibit Six, Map 10

Mobil Exhibit Seven, Summary 27

1
2 MR. STOGNER: Call next Case
3 Number 8949.

4 MR. ROYBAL: In the matter of
5 Case 8949 being reopened pursuant to the provisions of Divi-
6 sion Order No. R-8279, which order in part promulgated tem-
7 porary special rules and regulations for the South Show Bar
8 Devonian Pool in Lea County, New Mexico, including a provi-
9 sion for s80-acre spacing units.

10 MR. STOGNER: Call for appear-
11 ances.

12 MR. PEARCE: May it please the
13 Examiner, I am W. Perry Pearce of the Santa Fe law firm of
14 Montgomery & Andrews, appearing in this matter on behalf of
15 Mobil Producing Texas & New Mexico, Inc.

16 I have two witnesses who need
17 to be sworn.

18 MR. STOGNER: Are there any
19 other appearances in this matter?

20 There being none, will the wit-
21 nesses please stand to be sworn?

22
23 (Witnesses sworn.)
24
25

1 JAMES L. BEAVER, JR.,
2 being called as a witness and and being duly sworn upon his
3 oath, testified as follows, to-wit:

4
5 DIRECT EXAMINATION

6 BY MR. PEARCE:

7 Q For the record, sir, would you please
8 state your name and business address?

9 A Yes. My name is Jim Beaver and I work
10 for Mobil Producing Texas & New Mexico, in Midland, Texas.

11 Q And what do -- what services do you per-
12 form for Mobil?

13 A I am a production geologist.

14 Q Mr. Beaver, have you ever testified be-
15 fore the New Mexico Oil Conservation Division or one of its
16 examiners?

17 A No, I have not.

18 Q At this time would you briefly review for
19 the Examiner and those in attendance your educational back-
20 ground and work experience?

21 A Yes, sir. I have a Bachelor's -- Bache-
22 lor of Science degree from James Madison University and I
23 have a Master of Science degree from Texas Tech University.

24 Q Are both of those degrees in a particular
25 field of --

1 A Yes, geology.

2 Q All right. What year did you receive
3 your Master's degree?

4 A I received my Master's degree from Texas
5 Tech in 1982.

6 Q And subsequent to receiving your Master's
7 what has been your work experience?

8 A I have worked in exploration and produc-
9 tion for Superios Oil Company and for Mobil Oil Company,
10 both in Midland, Texas.

11 Q Therefor, that work experience since you
12 received your Master's degree in geology has centered on
13 Permian Basin area, is that correct?

14 A Totally on the Permian Basin.

15 Q All right, sir, and are you familiar with
16 the case which Mobil is going to present this morning?

17 A Yes, I am.

18 Q And what is the purpose of Mobil's ap-
19 pearing in this matter?

20 A Mobil is seeking to prove that we can ef-
21 fectively drain the Devonian reservoir in the South Shoe Bar
22 Field, effectively on an 80-acre spacing.

23 MR. PEARCE: So, Mr. Examiner,
24 at this time I would tender this witness as an expert in
25 petroleum geology.

1 MR. STOGNER: Mr. Beaver is so
2 qualified.

3 MR. PEARCE: Thank you.

4 Q Mr. Beaver, at this time if you would,
5 I'd ask you to approach the wall where we have taped up a
6 copy of what we've marked as Exhibit One, and if you'd tell
7 the Examiner and those in attendance what's represented by
8 that exhibit.

9 A Exhibit Number One represents a location
10 map showing the pool boundaries of our South Shoe Bar Devon-
11 ian Pool and the three other nearest Devonian pools.

12 Our South Shoe Bar Pool is shaded in
13 green while the Shoe Bar Field to the northwest its pool
14 outline is outlined in orange.

15 The East Shoe Bar Pool is shown in brown,
16 while the North Shoe Bar Pool is shown in light blue.

17 I would also like to mention that we have
18 spotted all of the Devonian oil producers, past and present,
19 with green dots within these pools.

20 Q All right, sir. At this time would you
21 approach Exhibit Two to this proceeding and tell the Exam-
22 iner what's reflected by that exhibit?

23 A Exhibit Number Two is a top Siluro-Devon-
24 ian structure map for the Shoe Bar area. This map shows the
25 structure over the South Shoe Bar Pool, the Shoe Bar Devon-

1 ian Pool, and the East Shoe Bar Devonian Pool.

2 I would like to point out that the Devon-
3 ian rocks in this area have been very highly faulted, main-
4 ly due to vertical faulting along the fault block which con-
5 tains the Shoe Bar and the Shoe Bar South Devonian Pools.

6 These pools are separated by down-thrown
7 or I'm sorry, to the southwest and northeast by down-thrown
8 fault blocks, which possess approximately or over 1000 feet
9 of throw relative to the up-thrown fault block.

10 Q Okay, I notice on that exhibit, Mr.
11 Beaver, that there is an area outlined in red. Could you
12 describe what that area is for us, please?

13 A Yes, sir. The area outlined in red rep-
14 resents our drilling unit outline and this is formed between
15 Mobil, who is the operator of the unit, and Amoco and Yates
16 Petroleum.

17 This unit was set up prior to drilling of
18 the discovery well and as you may notice, it does not exact-
19 ly coincide with our pool boundaries.

20 Q However, looking at those, at Exhibits
21 One and Two, it appears that all of the South Shoe Bar De-
22 vonian Pool is included within that drilling unit boundary,
23 is that correct?

24 A Yes, sir.

25 Q All right, sir, at this time I'd ask you

1 to approach Exhibit Three, please, and discuss that for us.

2 A Exhibit Number Three is a cross section
3 index map showing the location of structural cross section
4 A-A' and B-B', which traverse the South Shoe Bar Devonian
5 Reservoir.

6 Structural cross section A-A' will be
7 used to illustrate the general relationships traversing the
8 field from the southwest to the northeast, while cross sec-
9 tion B-B' will be used to illustrate the reservoir relation-
10 ships along the crest of the Shoe Bar Devonian reservoir.

11 Q Let's turn now to what we've marked as
12 Exhibit Four. What's shown on that exhibit, please?

13 A Exhibit Number Four again is cross sec-
14 tion A-A', hung on structure.

15 The cross section starts at the southwest
16 at the Monsanto MS Apple No. 1 Well, and this well TD'ed in
17 the Mississippian. It did not reach Devonian and it was re-
18 completed in the -- as an oil producer in the Mississippian.

19 Moving to the northeast, we come to our
20 Lovington Deep State No. 1 Well, which Mobil drilled as the
21 Devonian discovery. It was completed in June, 1986, flowing
22 581 barrels of oil per day.

23 Q Could you reference at this time, please,
24 Exhibit Number Three and point out where the Lovington Deep
25 No. 1 Well is?

1 A Yes, sir. It is located in the northeast
2 quarter of Section 1.

3 Q And on the line of cross section A-A'
4 that is the only well that is within the South Shoe Bar De-
5 vonian Pool?

6 A That is correct.

7 Q All right, sir, go ahead, please con-
8 tinue.

9 A Notice that we do have fault blocks be-
10 tween the well to the southwest and the well to the north-
11 east, which is the Stanoline AC State No. 1, and this well
12 drill stem tested water and the water cushion out of the De-
13 vonian.

14 As I mentioned previously, these faults
15 possess a throw of about 1000 feet.

16 Moving to the northeast, our last well is
17 located in the East Shoe Bar Field and it is the Jake Hamon
18 State A 1320 No. 1 and it was a Devonian oil producer.

19 Q All right, sir, anything else you'd like
20 to point out to the Examiner on this particular exhibit?

21 A No, sir.

22 Q All right, if you'd go now to the other
23 side of the room, please, and address what we have marked as
24 Exhibit Five to this proceeding.

25 A Exhibit Number Five is a structural cross

1 section B-B' and this cross section begins at the north end
2 of the field and our northernmost producer, which is the
3 Mobil Lovington Deep Amoco -- or I'm osrry, Lovington Deep
4 Yates State No. 1, and it goes down across all the Devonian
5 producers to the southeast limit of the field to the Mobil
6 No. 3 Lovington Deep Amoco State Well.

7 Some of the more important features of
8 this cross section is that from our just gamma density neu-
9 tron logs we can see that we are dealing with a dolomite re-
10 servoir and we feel that our net pay occurs in fractured
11 streaks and these are the streaks that we have perforated.
12 Our perforations are plotted on these logs, and I have
13 colored the net pay in green.

14 Q Anything else you'd like to discuss about
15 Exhibit Five?

16 A We do have a minor fault as indicated
17 from seismic, which cuts the reservoir, but it appears to
18 have less than 100 feet of throw.

19 Q All right, sir, I'd ask you at this time,
20 please, to approach what we've hung on the wall and marked
21 as Exhibit Number Six and discuss that for the Examiner,
22 please.

23 A Exhibit Number Six is a Devonian net pay
24 thickness map and this was generated by log analysis of the
25 subject wells. We have -- basically, we believe we have an

1 oil/water contact at 8810, -8810 feet subsea, as determined
2 from Swab tests in one of -- in our discovery well.

3 Q I'm sorry, if you'd review for us,
4 please, the source of the data reflected on that Isopach.

5 A Yes. The source of the data was from the
6 logs themselves, picking net pay.

7 Q And the source of the information
8 relating to the faulting in the area?

9 A The source of the faulting was derived
10 from seismic lines.

11 Q All right, sir, anything else you'd like
12 to discuss at this time?

13 A No, sir.

14 Q Do you believe, Mr. Beaver, that the
15 information which we have discussed is an accurate summary
16 of the geology found within the South Shoe Bar Devonian
17 Pool?

18 A Yes, I do.

19 Q Thank you. You may take your seat.

20 MR. PEARCE: I have nothing
21 further of the witness at this time, Mr. Examiner.

22

23 CROSS EXAMINATION

24 BY MR. STOGNER:

25 Q Do you have a map that shows your shot

1 lines?

2 A No, sir, not with me.

3 Q Okay, can you point out what general
4 direction over this main unit?

5 A We do have quite a number of lines. We
6 have, let's see, we have some northeast/southwest lines. We
7 also have northwest/southeast lines, but the exact orienta-
8 tion I don't recall, but we do have several (unclear) in the
9 field.

10 Q Are you also the operator of the East
11 Shoe Bar and the Shoe Bar as far as the majority of the
12 wells drilled in those areas?

13 A No, sir. We have no wells in either of
14 those pools, to my knowledge.

15 Q And looking at Exhibit Number Two, were
16 the faults as shown on there also -- seismic also showed
17 those faults?

18 A Yes, sir.

19 Q Okay. Were you able to extend the faults
20 south to cover some of the other areas back up to the north
21 and east and south west and such that you don't show on your
22 Exhibit Number Six?

23 A Yes, we do have a large amount in this
24 area.

25 Q Did you all run a seismic on that or were

1 you relying on other seismics or --

2 A We have some pretty extensive seismic
3 surveys in this area.

4 Q Do you know what the spacing rules are on
5 the East Shoe Bar and the Shoe Bar Pool?

6 A Yes, sir. I believe the spacing rules
7 for the East Shoe Bar are 80 acres and I understand for the
8 Shoe Bar Field it is also 80 acres.

9 There are two replacement wells, you
10 might notice, the two that are plugged and close together,
11 as I understand it they are replacement wells.

12 Q Are you talking about the one in the Shoe
13 Bar Pool, essentially in the middle?

14 A Yes, sir. The ones that are closest to-
15 gether.

16 Q Okay.

17 A Rather close. One of these is a replace-
18 ment well, I believe this is the replacement well and I be-
19 lieve --

20 Q And you're pointing up in the north part
21 of Section 35, is that correct?

22 A Yes, sir.

23 Q And those two that are in the very south-
24 ern portion of Section 26, both the green dots.

25 A Right. Now, these -- these -- I believe

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1 MR. STOGNER: Which one will you
2 be referring to?

3 MR. PEARCE: The Number One,
4 excuse me, Exhibit Number One.

5 MR. STOGNER: Thank you, Mr.
6 Pearce.

7
8 C. J. HAMNER,
9 being called as a witness and being duly sworn upon his
10 oath, testified as follows, to-wit:

11
12 DIRECT EXAMINATION

13 BY MR. PEARCE:

14 Q All right, sir, at this time would you
15 please state for the Examiner and those in attendance your
16 name and business address?

17 A My name is Curtis Jack Hamner and I work
18 at Mobil Producing Texas and New Mexico in Midland, Texas.

19 Q Mr. Hamner, what's your position at Mobil?

20 A I am a reservoir engineer.

21 Q Mr. Hamner, have you testified before the
22 Division or one of its examiners previously?

23 A Yes, sir, I have.

24 Q And have you performed certain petroleum
25 engineering studies with regard to the South Shoe Bar Devon-

1 ian Pool?

2 A Yes, sir, I have.

3 Q And are you familiar with the case which
4 Mobil is presenting this morning?

5 A Yes, I am.

6 Q What generally does Mobil seek?

7 A Mobil seeks the continuation of 80-acre
8 spacing in the South Shoe Bar Devonian Pool.

9 MR. PEARCE: At this time, Mr.
10 Examiner, I would tender Mr. Hamner as an expert in petro-
11 leum engineering.

12 MR. STOGNER: Mr. Hamner is so
13 qualified.

14 Q Mr. Hamner, have you reviewed the pre-
15 vious record in Case 8949?

16 A Yes, sir, I have.

17 Q And have you reviewed the pressure build-
18 up test data and analysis which was presented at that hear-
19 ing?

20 A Yes, I have.

21 Q Since the time of that hearing has any
22 additional pressure build-up test data or analysis been per-
23 formed?

24 A No, there has not.

25 Q Is it the purpose of your testimony this

1 morning to try to support the propriety of 80-acre spacing
2 in the South Shoe Bar Devonian Pool by other means?

3 A Yes, sir, it is.

4 Q And would you describe what you've done?

5 A I have done a reservoir volumetric
6 analysis on the four Devonian pools including the South Shoe
7 Bar Devonian Pool.

8 I'd like to point the pools out one more
9 time.

10 Again in Exhibit One --

11 MR. STOGNER: Will you face
12 this way and direct your voice toward the reporter?

13 A Okay. All right. The four pools that we
14 did the reservoir volumetric analysis on again, the North
15 Shoe Bar, the Shoe Bar Devonian Pool, the South Shoe Bar
16 Devonian, and the East Shoe Bar Devonian Pool.

17 Q Okay, I would ask you at this time, Mr.
18 Hamner, if you would, to refer to what we have marked as
19 Mobil Exhibit Number Seven to this proceeding and would you
20 describe for the Examiner what's reflected by that exhibit?

21 A Exhibit Seven is a summary of the
22 reservoir volumetric study conducted on the four Devonian
23 Pools.

24 It shows the average reservoir parameters
25 used for each pool in the analysis.

1 It further depicts the calculated average
2 recovery factor on 40 and 80 acres with respect to the wells
3 in each pool. The source of the reservoir parameters is
4 publicly available data, such as well logs, Dwight's data
5 base information, and Mobil's PVT report, which comes from
6 our Devonian discovery well, the Lovington Deep State No. 1.

7 Q Mr. Hamner, after reviewing petroleum en-
8 gineering matters relative to this field, what reasonable
9 recovery factor do you believe could be expected?

10 A It is my opinion that in a fractured dol-
11omite such as this case an appropriate recovery factor will
12 range from 25 to 55 percent of the original oil in place.

13 Q After conducting this reservoir volumet-
14ric study, Mr. Hamner, what conclusions have you drawn?

15 A In general, the Devonian wells in this
16 area are capable of draining larger than 40 acres. For ex-
17 ample, the Shoe Bar Devonian and East Shoe Bar Devonian
18 where the average recovery factor, as shown on Exhibit Num-
19 ber Seven, of 113 percent and 184 percent calculated for 40
20 acres, demonstrates that the average well in these pools is
21 draining more than 40 acres.

22 Q Looking at the wells and pools depicted
23 on Exhibit One, have the other Devonian pools in the general
24 vicinity of the South Shoe Bar been developed on spacing
25 greater than 40 acres?

1 A Yes, sir, they have. In each instance in
2 these pools the wells were developed on spacing greater than
3 40 acres.

4 Q Mr. Hamner, what's your opinion of the
5 result if the South Shoe Bar Devonian Pool were to be devel-
6 oped on 40-acre spacing?

7 A It is my opinion that development on 40-
8 acre spacing would result in the drilling of unnecessary
9 wells and therefor result in waste.

10 Q Mr. Hamner, in your conduct of your
11 reservoir volumetric study, do I understand that you believe
12 that the South Shoe Bar Devonian Pool is a water-drive
13 reservoir?

14 A Yes, sir, that's correct.

15 Q And do I understand that you have re-
16 viewed the pressure build-up test data and analysis presen-
17 ted at the previous hearing of this case and that that evi-
18 dence tended to indicate that the South Shoe Bar Devonian
19 Pool should be developed on spacing greater than 40 acres?

20 A Yes, sir, that is correct.

21 Q And do I understand that your reservoir
22 volumetric analysis summary leads you to that same conclu-
23 sion?

24 A Yes, sir, that's correct.

25 Q Mr. Hamner, do you believe that spacing

1 the South Shoe Bar Devonian Pool on units larger than 40 ac-
2 res would be in the best interest of the prevention of waste
3 and the protection of the correlative rights of interest
4 owners within that pool?

5 A Yes. I do.

6 Q Thank you, Mr. Hamner.

7 MR. PEARCE: I have nothing
8 further at this time, Mr. Examiner.

9 MR. STOGNER: Thank you, Mr.
10 Pearce.

11

12 CROSS EXAMINATION

13 BY MR. STOGNER:

14 Q Mr. Hamner, of the four wells that are
15 shown on map one, are those all presently producing from the
16 South Shoe Bar Pool?

17 A Yes, sir, they are.

18 Q And how many of those are Mobil's?

19 A We have all four wells.

20 Q All four of them?

21 A Yes, sir.

22 Q Okay. The first one was drilled in
23 Section 1 in the northeast quarter northeast quarter, is
24 that correct?

25 A Yes, sir, that's correct.

1 Q Which one was the second one drilled, or
2 which well was the second well drilled?

3 A To my recollection we drilled the Yates
4 State and we moved on down to the Amoco State No. 2 Well,
5 and then our last well, which is the Amoco State No. 3 Well,
6 in the southernmost portion.

7 Q The second one was the one in Section 36
8 and then the other two were in Section 6 with the first well
9 drilled in Section 6 being the one in the north --

10 A The Amoco State No. 2 (unclear).

11 Q As far as the characteristics, producing
12 characteristics, were they all similar to the first one?

13 A In my opinion, yes.

14 Q Did you complete them and stimulate them
15 in the same manner?

16 A Yes, we did.

17 Q And what -- what did you all use ot stim-
18 ulate them?

19 A We just did a basic acid job. We did not
20 frac the wellbores; just acidized them lightly with acid.

21 Q How about the water production on the
22 ones in Section 6? Have you started to get any of the water
23 breakthrough yet?

24 A Yes, sir, we have. What we have noticed
25 especially is that our water production on the Amoco State

1 No. 3 Well, which is the furthest well that we have on our
2 structure, is essentially right now making about 55 oil and
3 500 water.

4 We have on the No. 2 Well making about,
5 oh, essentially 80 barrels a day and about 75 water.

6 And on the No. 1 Well we are currently on
7 a workover on this well so I really can't tell you what the
8 production is on that at this particular point in time.

9 On the Yates State, which is our best
10 well of the four, we're producing about 100 barrels a day
11 and about 20 water.

12 Q When I look at your Exhibit Number Seven,
13 I really don't see any of your formulas or any type of your
14 volumetric equations. I take it you did some to come up
15 with these figures, is that correct?

16 A Yes, sir, that's correct. We used a
17 standard volumetric equation for the analysis.

18 MR. PEARCE: Can you recite
19 that off the top of your head, Mr. Hamner?

20 A Yes, I can.

21 MR. PEARCE: Would you, please?

22 A It's -- the original oil in place is
23 equal to 7758 AH B-1 minus the water saturation over B sub
24 O.

25 Q Okay and how did you run that through the

1 lated for each of those acreages put in the volumetrics
2 equation and we looked at, and judged, what made sense for
3 the spacing.

4 Q The volumetric equation that you utilized
5 in this particular -- in these particular figures, is that
6 standard and normal operating procedures for a dolomite re-
7 servoir?

8 A It is the best -- that's the methodology
9 that -- that we have for doing reservoir comparisons with
10 the data that we have available.

11 MR. STOGNER: I have no further
12 questions of Mr. Hamner.

13 Are there any other questions
14 of this witness?

15 MR. PEARCE: I have nothing
16 further, Mr. Examiner.

17 MR. STOGNER: Does anybody else
18 have anything, any other questions of this witness?

19 He may be excused.

20 Mr. Pearce, do you have any-
21 thing further?

22 MR. PEARCE: I have nothing
23 further at this time, Mr. Examiner.

24 MR. STOGNER: Does anybody else
25 have anything further in this case?

1 MR. PEARCE: I move the admis-
2 sion of Exhibits One through Seven, Mr. Examiner.

3 MR. STOGNER: Thank you. Exhi-
4 bits One through Seven will be admitted into evidence at
5 this time.

6 If nobody else has anything
7 further, Case Number 8949 will be taken under advisement.

8
9 (Hearing concluded.)

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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY
CERTIFY that the foregoing Transcript of Hearing before the
Oil Conservation Division (Commission) was reported by me;
that the said transcript is a full, true, and correct record
of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 8949 (Reopened)
heard by me on 30 March 1988.

Michael J. Stewart, Examiner
Oil Conservation Division

