

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

28 August 1985

EXAMINER HEARING

IN THE MATTER OF:

Case 4575 being reopened on the motion CASE
of the Oil Conservation Division and 4575
pursuant to the provisions of Order
No. R-4193, as amended.

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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

For the applicant:

1
2 MR. STOGNER: Call next Case
3 Number 4575.

4 MR. TAYLOR: In the matter of
5 Case 4575 being reopened on the motion of the Oil
6 Conservation Division and pursuant to the provisions of
7 Order No. R-4193, which order established a limiting
8 gas/oil ration of 5000 cubic feet of gas for each barrel of
9 oil produced for the South Eunice-San Andres Pool in Lea
10 County.

11 Operators may appear and
12 present evidence as to whether or not the Anadarko
13 Production Company Lou Wortham Well No. 6, located in Unit E
14 of Section 11, Township 22 South, Range 37 East, is in fact
15 a gas well; whether or not the pool is in fact an associated
16 reservoir; and whether or not the limiting gas/oil ratio
17 should revert to 2000-to-1.

18 The applicant has requested
19 that this case be continued.

20 MR. STOGNER: Case Number 4575
21 will be continued to the Examiner's Hearing scheduled for
22 October 9th, 1985.

23
24 (Hearing concluded.)
25

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 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 transcript is a true and correct copy of the original as filed in the files of the Oil Conservation Division.
dated by me on 28 August 1985
Michael E. Stogner, Examiner
Oil Conservation Division

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICOHearing Date OCTOBER 9, 1985 Time: 8:00 A.M.

NAME	REPRESENTING	LOCATION
Karen Aubrey	Kellahan + Kellakin	Santa Fe
Billy Miller	LOPARK GRACE	CARLSBAD
J.H. Bobb-Kendrick	El Paso Natural Gas Co.	El Paso, TX
Bob Huhner	Bryan	Santa Fe
William L. San	Campbell and Clark	Santa Fe
Ken Bateman	White Koch Kelly & McElroy PA	Santa Fe
Bob Walker	Northern Natural Gas Co	Midland, TX
W.B. McCoy	Consultant - Grace	Santa Fe
Tom Oile	Southland Royalty	Farmington, NM
Bob Fielder	Southland Royalty Co.	Farmington, N.M.
W.T. Kellakin	Kellakin + Kellakin	Santa Fe
Carl L. Padilla	Padilla + Snyder	SF
Don Maloney	Mallon Oil Co.	Denver
Karin M. Fitzgerald	Mallon Oil Co	Denver
Robert Buettner	Koch Exploration Company	Wichita, KS
John Roe	Dugan Production Corp.	Farmington, NM
Wm. P. Aycock	Doyle Hartman	Midland

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARINGSANTA FE, NEW MEXICOHearing Date OCTOBER 9, 1985 Time: 8:00 A.M.

NAME	REPRESENTING	LOCATION
Bill Sullivan	ANADARKO PETR	MIDLAND
Ernie Busch	UNOCAL	Aztec
Jeff Bonisade	TXO	MIDLAND
Andrew T. O'Hare	TXO	Midland
Deen Wood	TXO	Midland
W. Perry Pearce	Montgomery Andrews, PA	Santa Fe
AL GREER	BENSON - MONTGOMERY-ANDREWS	FARMINGTON
Bob Storvall	Dugan Production	Farmington
STEVE DUNN	Merrion Oil & Gas	FARMINGTON
T. D. Dugan	" " "	"
Steve Burleson	LAB INC.	Midland
Red Walsh	Walsh Engineering	Farmington
Greg Davis	Pennzoil Co.	Midland
John Peltier	Anadarko Petr.	Midland
Dan Queen	Cons. Engr	Santa Fe
Edly Pearson	TXO	Midland
L. B. Burton	LBK, Inc	Midland
T. C. R. H. C.		Antonia

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

9 October 1985

EXAMINER HEARING

IN THE MATTER OF:

Case 4575 being reopened on the
motion of the Oil Conservation
Division and pursuant to the pro-
visions of Order No. R-4193.

CASE
4575

Application of Anadarko Production CASE
Corporation for special pool rules, 8726
Lea County, New Mexico.

BEFORE: Gilbert P. Quintana, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

Jeff Taylor
Attorney at Law
Legal Counsel to the Division
Energy and Minerals Dept.
Santa Fe, New Mexico 87501

For Anadarko:

Karen Aubrey
Attorney at Law
KELLAHIN & KELLAHIN
P. O. Box 2265
Santa Fe, New Mexico 87501

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I N D E X

WILLIAM D. (BILL) SULLIVAN

Direct Examination by Ms. Aubrey 5

JOHN W. PEFFER

Direct Examination by Ms. Aubrey 9

Cross Examination by Mr. Quintana 25

Redirect Examination by Ms. Aubrey 29

E X H I B I T S

CASE 4575

Applicant Exhibit One, Order 7

Applicant Exhibit Two, Plat 11

Applicant Exhibit Three, Tabulation 12

Applicant Exhibit Four, Structure Map 13

Applicant Exhibit Five, Log 14

Applicant Exhibit Six, Log 14

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E X H I B I T S

CASE 8726

Applicant Exhibit One, Map	18
Applicant Exhibit Two, Log	22
Applicant Exhibit Three, Production History	20
Applicant Exhibit Four, Order	20

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2
3 MR. QUINTANA: We'll call next
4 Case 4575.

5 MR. TAYLOR: In the matter of
6 Case 4575 being reopened on the motion of the Oil Conserva-
7 tion Division and pursuant to the provisions of Order Number
8 R-4193, which order established the limiting gas/oil ratio
9 of 5000 cubic feet of gas for each barrel of oil produced
for the South Eunice-South Andres Pool in Lea County.

10 MR. QUINTANA: And do you want
11 to consolidate Anadarko?

12 MS. AUBREY: Mr. Examiner,
13 Karen Aubrey representing the applicant.

14 We would like to consolidate
15 this case for the purposes of testimony only with Case 8726,
16 which is later on the docket, also, for Anadarko Production
Company -- Corporation.

17 I have the same witnesses in
18 both cases.

19 MR. QUINTANA: We will so con-
20 solidate Cases 4575 and Case 8726.

21 The Case 8726 is the applica-
22 tion of Anadarko Production Corporation for special pool
23 rules in Lea County, New Mexico.
24
25

Are there other appearances in
Cases 4575 and Case 8726?

If not, you may proceed.

MS. AUBREY: I have two witnesses to be sworn.

(Witnesses sworn.)

WILLIAM D. (BILL) SULLIVAN,
being called as a witness and being duly sworn upon his
oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MS. AUBREY:

Q Would you state your name and place of
employment for the record?

A My name is Bill Sullivan and I work for
Anadarko Petroleum Corporation in Midland, Texas.

Q And how are you employed by Anadarko?

A I'm the Division Reservoir Engineer.

Q Mr. Sullivan, have you testified previously before the Oil Conservation Commission and its Examiners and had your qualifications made a matter of record?

A Yes, I have.

MS. AUBREY: Are the witness'

1
2 qualifications acceptable?

3 MR. QUINTANA: Yes, they are.

4 Q Ms. Sullivan, are you familiar with the
5 case called by the Oil Conservation Division, Case 4575, and
6 the subject matter of that case?

7 A Yes, I am.

8 Q Can you give the Examiner a brief history
9 of the involvement of Anadarko in the South Eunice San An-
10 dres Pool in Lea County?

11 A Yes, I can.

12 The pool was discovered by Exxon in 1969.
13 Anadarko's first completion in the Eunice South San Andres
14 Pool was in March of 1970, and it was the Lou Wortham C No.
15 1 Well.

16 Exxon had at that point established 80-
17 acre spacing, conventional pool rules, and Anadarko through
18 1970 and 1971 fully developed its lease position according
19 to those 80-acre pool rules.

20 In August, 1971, Anadarko completed its
21 Lou Wortham No. 6, and in August of 1971 applied and re-
22 ceived a hearing on an application to provide special pool
23 rules that would allow designation of oil and gas wells
24 within the Eunice South San Andres Pool. That hearing was
25 held in September of 1971, again to hear Anadarko's recom-
mendation to provide for the designation of oil and gas

1 wells within the pool.

2 Q Mr. Sullivan, we've marked as Exhibit
3 Number One a copy of Order No. 4193, which was the order
4 which resulted from Case 4575. Do you have that in front of
5 you?

6 A Yes, I do.

7 Q As a result of the hearing in that case,
8 was the Lou Wortham No. 1 -- I'm sorry, No. 6 Well desig-
9 nated as an oil well or a gas well?

10 A The Lou Wortham No. 6 was designated an
11 oil well in the order in that the Commission found no con-
12 clusive evidence was offered to substantiate that the Lou
13 Wortham No. 6 should be designated a gas well.

14 Q And at that time in 1971 the gas/oil
15 ratio was set at 5000 cubic feet of gas per barrel of oil,
16 is that correct?

17 A Yes, it was. That was established as the
18 limiting GOR for the pool rules.

19 Q Under the terms of that order was there
20 an obligation on the part of Anadarko to bring this matter
21 on for hearing again within a certain time period?

22 A Yes. Order, paragraph number three in
23 the order required that the subject be reopened in September
24 of 1972 at an examiner hearing to again consider whether or
25 not the Lou Wortham No. 6 should be designated as a gas

1
2 well.

3 Q Do you know whether or not that was done?

4 A To my knowledge it was not.

5 Q Mr. Sullivan, have you examined the
6 reservoir characteristics and the production data from the
7 wells in the South Eunice-San Andres Pool in order to form
8 an opinion as to whether or not the GOR for the Lou Wortham
Well No. 6 should remain at 5000-to-1?

9 A Yes, I reviewed performance and it's my
10 opinion that a 5000 limiting GOR remains an appropriate rule
11 for this reservoir and the well.

12 Q Do you have an opinion, Mr. Sullivan, as
13 to whether or not the Lou Wortham No. 6 Well should continue
14 to be designated as an oil well?

15 A Yes, I believe the Lou Wortham No. 6
16 should continue to be designated as an oil well.

17 Q And do you have an opinion, Mr. Sullivan,
18 as to whether or not the reservoir from which the Lou Wor-
tham No. 6 is producing is an associated reservoir?

19 A The reservoir is a solution gas drive re-
20 servoir. There is no apparent indication that there is an
21 associated gas reservoir in the Eunice South-San Andres
22 Field.

23 Q The wells in the South Eunice Number --
24 I'm sorry, the South Eunice-San Andres Pool are -- the South
25

1
2 Eunice-San Andres Pool is being developed on 40-acre spac-
3 ing, is it not?

4 A Yes. The pool rules remain 80-acre
5 spacing during 1983 and '84. Anadarko has, in fact,
6 developed its leases on 40-acre spacing by drilling a second
7 well on each 80-acre spacing unit.

8 MS. AUBREY: Mr. Examiner, I
9 have no more questions of this witness.

10 MR. QUINTANA: Any further
11 questions of the witness?

12 If not, he may be excused.

13 You may proceed.

14 MS. AUBREY: Mr. Examiner, Mr.
15 Sullivan's testimony was directed solely toward Case 4575;
16 however, Mr. Peffer will testify about both 4575 and 8726.

17 JOHN W. PEFFER,
18 being called as a witness and being duly sworn upon his
19 oath, testified as follows, to-wit:

20 DIRECT EXAMINATION

21 BY. MS. AUBREY:

22 Q State your name for the record, please.

23 A My name is John Peffer.

24 Q And where are you employed?
25

1
2 A I'm employed by Anadarko Petroleum Cor-
3 poration in Midland.

4 Q What is your position with Anadarko?

5 A I'm a reservoir engineer.

6 Q Have you testified previously before the
7 Oil Conservation Division?

8 A No, I have not.

9 Q Will you describe for the Examiner your
10 professional training in reservoir engineering?

11 A I have received both a Bachelor's and a
12 Master's degree in petroleum engineering from the University
13 of Texas at Austin, and have been working for Anadarko for
14 approximately two months.

15 Q When did you receive your Master's de-
16 gree?

17 A This summer.

18 MS. AUBREY: Mr. Quintana, are
19 the witness' qualifications acceptable?

20 MR. QUINTANA: You've been
21 working for Anadarko since you got out of school?

22 A Yes.

23 MR. QUINTANA: And in the area
24 that you're about to testify about?

25 A Yes.

 MR. QUINTANA: He's considered

1 a qualified witness.

2
3 You may proceed.

4 Q Are you familiar with the application of
5 Case Number 4575 and the application filed by Anadarko in
6 Case 8726?

7 A Yes, I am.

8 Q Why don't we start with Case 4575?

9 The Oil Conservation Division has called
10 this case to examine whether or not the gas/oil ratio 5000-
11 to-1 should remain or should revert to 200-to-1 for the
12 South Eunice-San Andres Pool.

13 You're familiar with that?

14 A Yes, I am.

15 Q Let me have you refer to what we have
16 marked as Anadarko Exhibit Number Two in Case 4575. This
17 map shows the location of the Lou Wortham No. 6 and the
18 other wells in the South Eunice-San Andres Pool, is that
19 correct?

20 A Correct.

21 Q Can you identify those wells for the
22 hearing examiner?

23 A The Lou Wortham No. 6 is located in the
24 southwest corner of -- I don't have the -- well, it's lo-
25 cated in the southwest corner of the northeast block of Sec-
tion 11, indicated by a red dot.

1
2 Q And what do the other red dots on Exhibit
3 Number Two represent?

4 A They show all current or past producing
5 wells in the Eunice South-San Andres Field. Anadarko's
6 lease position is indicated in yellow.

7 Q So Anadarko has a position in the north
8 half of Section 11 --

9 A Yes.

10 Q -- and the northwest quarter of Section
11 14?

12 A Right.

13 Q Have you examined the wells which are
14 producing in the South Eunice-San Andres Pool and do you
15 know what their present gas/oil ratios are?

16 A Yes, I have.

17 Q Can you describe that?

18 A The field itself has been depleted to the
19 point where solution gas is coming out of solution, forming
20 a mobile gas saturation in the field and this has resulted
21 in GOR's in excess of 2000-to-1 in the pool.

22 We don't produce enough gas in any of our
23 wells to overproduced at 5000-to-1; however, at a 2000-to-1
24 GOR four of the ten wells operated by Anadarko would be
25 overproduced.

Q Let me refer you to Exhibit Number Three.

1
2 Have you tabulated the gas allowable at both 5000 GOR and
3 2000?

4 A Yes, I have, and that is where I base my
5 figures of four of the ten wells would be overproduced at
6 2000-to-1.

7 Q Would you go through Exhibit Number Three
8 and explain to the Examiner which the four wells are which
9 would be overproduced at 2000-to-1?

10 A Lou Wortham No. 6, No. 20, and the Lou
11 Wortham B-3 and B-4.

12 Q Are those wells presently overproduced at
13 a gas/oil ratio of 5000?

14 A No, they are not.

15 Q Part of the call of the case is whether
16 or not the Lou Wortham No. 6 Well should remain classified
17 as an oil well.

18 Have you examined your records and come
19 to any professional opinion as to whether or not that well
20 is properly classified as an oil well?

21 A Yes, I have, and from my research and an-
22 alysis of the Lou Wortham No. 6, I think it would be classi-
23 fied as an oil well, or remain classified as an oil well.

24 Q Let me refer you to your Exhibit Number
25 Four. This is a structure map?

A This is a structure map of the Eunice

1 South-San Andres again indicating Anadarko's wells. The San
2 Andres wells are circled and are evident on the map, and
3 from the structure of the pool, it is not -- we don't be-
4 lieve that there is -- it should be classified as an asso-
5 ciated reservoir.

6 Q From your structure map can you find any
7 evidence of a gas reservoir underlying the Lou Wortham No. 6
8 Well?

9 A No, I cannot.

10 Q Do you know how long that well's been pro-
11 ducing?

12 A It's been producing since 1971.

13 Q Let me have you look at Exhibits Number
14 Five and Six now in Case 4575.

15 A Exhibits Five and Six are logs of the Lou
16 Wortham No. 6 and the Lou Wortham No. 20.

17 The No. 6, of course, is the well that
18 was drilled in 1921 and the Lou Wortham No. 20 was completed
19 last year, 1984.

20 Q Can you correlate the top of the San An-
21 dres (not clearly understood)?

22 A Yes, I can. It's approximately 3800 feet
23 on the logs and again from the logs I don't see any evidence
24 that there is a gas cap associated with this field.

25 Q What is the top perforation of the Lou

1 Wortham No. 6?

2 A The top perforation is at 3900 feet, 3900
3 to 3902.

4 Q How does that correlate with the top per-
5 foration of the Lou Wortham No. 20?

6 A It is approximately the same. The Lou
7 Wortham No. 20 has top perforations at 3884 to 90 and, you
8 know, from the location of perforations again I don't see
9 any evidence of a gas cap.

10 Q The Lou Wortham No. 6 is not perforated
11 higher than the Lou Wortham No. 20?

12 A No.

13 Q And the Lou Wortham No. 20 is classified
14 as an oil well, is that correct?

15 A Correct.

16 Q In the event that the gas/oil ratio for
17 the Lou Wortham No. 6 reverts to 2000-to-1, can you explain
18 for the hearing examiner the effect that that will have on
19 the production of oil from that well?

20 A We'd have to curtail our production,
21 either produce fewer days of the month or some other means
22 of producing our gas production, which in turn will lower
23 the amount of oil we will produce.

24 Q Are you presently -- do you presently
25 have a market for the casinghead gas produced from the Lou

1
2 Wortham No. 6?

3 A Yes, we do.

4 Q Who's buying that gas?

5 A I'm afraid I really am not sure.

6 Q And --

7 A I think it's Northern Natural but I'm not
8 -- okay, Northern Natural is the purchaser.

9 Q And they're buying all the gas you pro-
10 duce from the well?

11 A Yes, they -- we don't -- if we continue
12 with 5000-to-1 GOR, we don't anticipate producing any more
13 gas and they've taken all we've produced so far.

14 Q Let me have you refer back to your Exhi-
15 bit Number Three, the Lou Wortham No. 6 in August of 1985
16 produced 278 barrels of oil, is that correct?

17 A Correct.

18 Q Had you had some problems in that well
19 prior to August of 1985?

20 A Yes, we did. We had a casing leak that
21 was repaired prior, I guess it was repaired then in July,
22 1985, and subsequent to this our production of oil had been
23 low due to the fact of the casing leak and once we repaired
24 it, stabilized production resulted and we produced that
25 amount of oil and gas in August.

26 Q The Lou Wortham No. 6 has been producing

1
2 at 5000 GOR since it was completed in 1971, is that correct?

3 A Since the hearing that was conducted in
4 '71, yes.

5 Q Have you seen any evidence of production
6 decline other than what you would expect to see with a solu-
7 tion drive gas reservoir?

8 A No, I have not.

9 Q Mr. Peffer, did you prepared Exhibits One
10 through Six or were they prepared under your direction and
11 control?

12 A Yes, they were.

13 Q Will the continuation of the gas/oil
14 ratio at 5000-to-1 for the Lou Wortham No. 6 Well protect
15 correlative rights and prevent waste?

16 A In my opinion it would.

17 Q Let me have you turn now to your exhibits
18 in Case 8726.

19 MR. QUINTANA: You may proceed.

20 MS. AUBREY: Thank you.

21 Q I'm going to direct your attention now to
22 Case 8726..

23 This is also a case in which Anadarko
24 Production Corporation is asking to have a gas/oil ratio of
25 5000-to-1, is that correct?

A Yes, it is.

1
2 Q This time we're talking about the Foster-
3 San Andres Pool, is that correct?

4 A Correct.

5 Q You're familiar with the subject matter
6 of the application in Case 8726 and the Foster-San Andres
7 Pool, is that correct?

8 A Yes, I am.

9 Q The well for which the -- which Anadarko
10 has drilled is the Harvard No. 1?

11 A Yes, it is.

12 Q When was that well completed?

13 A It was completed in 1984, April of '84.

14 Q Is Anadarko the operator of that well?

15 A Yes, they are. We are.

16 Q Let me have you look at your Exhibit Num-
17 ber One in Case 8726, which is a structure map and area map.

18 A Yes, it is.

19 Q And describe for the Examiner what the
20 red dots are and what the area outlined in yellow is.

21 A The area outlined in yellow is our ac-
22 reage position in the Foster San Andres Field.

23 Our Harvard No. 1 is in the south --
24 south portion of the yellow section.

25 The two other wells colored in red are

1
2 the other two wells in the field. One is operated by
3 Martindale Petroleum and the other by Texas American.

4 Q And are those the only three wells in the
5 Foster San Andres Field?

6 A Yes, they are.

7 Q Have you contacted Martindale and Texas
8 American with regard to Anadarko's application today and the
9 request to have the gas/oil ratio set at 5000?

10 A Yes, I have. I contacted both companies
11 and they voiced no objection to increased the limiting
12 gas/oil ratio to 5000-to-1.

13 Q And are you aware that they were both
14 sent copies of the application in this case and have filed
15 no objection with the Oil Conservation Division?

16 A Yes.

17 Q In fact, Martindale has received an in-
18 creased gas/oil ratio for one of its wells in the area, is
19 that correct?

20 A Yes. In April or -- in April of 198 --

21 Q Four.

22 A Okay, in April of 1984 Martindale applied
23 for a hearing on the East Hobbs Field, which is located just
24 to the north of the Foster San Andres, and they applied for
25 a limiting gas/oil ratio of 5000-to-1 for that field and re-
ceived it, and it's similar rock, similar producing charac-

1
2 teristics.

3 Q We've marked a copy of that order as our
4 Exhibit Number Four, and that is the Martindale East Hobbs
5 Pool, which is just north of the subject location.

6 Have you prepared a production history on
7 the Harvard No. 1?

8 A Yes, I have.

9 Q Including gas and oil production?

10 A Yes, I have.

11 Q And that's marked as our Exhibit Number
12 Three?

13 A Yes.

14 Q Can you go through that for the Examiner?

15 A The Exhibit Number Three is production
16 totals for the Harvard No. 1 for 1985 through -- from Janu-
17 ary through August. It shows our oil and gas production,
18 what our allowable, gas allowable was for each month, and
19 tabulates our overproduction for each month and our cumula-
20 tive overproduction for the well, and also the days we pro-
21 duced it.

22 Q Is that overproduction calculated at
23 2000-to-1 or 5000-to-1?

24 A At 2000-to-1.

25 Q If the gas/oil ratio is increased to
5000-to-1 will the well be overproduced?

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A No, it will not.

Q Have you performed a drill stem test on the Harvard No. 1 Well and do you know the results of that test?

A We performed a drill stem test when we completed the well and the pressure that we measured at that time was approximately 390 psi.

I have also calculated the bubble point pressure for the field and it is only an approximation but it was approximately 1500 psi at this time, or at the time of completion.

Q Given those facts can you shut the Harvard No. 1 in and have the gas go back into solution, then?

A No, the well, or the field has been so depleted that in my opinion there would be no way to lower the GOR back to 2000-to-1 ratio.

Q Do you know when the field was discovered?

A It was discovered in 1957, July, 1957, so it's been producing for almost thirty years and it's very, very depleted.

Q Have you -- you have asked in your application for a retroactive application of the gas/oil ratio at 5000 back to July of 1985?

A Yes.

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Q Can you explain that request to me again?

A If we make this ruling retroactive to July 1st at the 5000-to-1 GOR, we could make up our overproduction.

Q And the well would then not be overproduced at all.

A Correct.

Q Do you have a market for your casinghead gas from this well?

A Yes, we do. Phillips is the purchaser for the casinghead gas and they again have taken all the gas that we've produced so far.

Q In the event that the gas/oil ratio is increased to 5000, will you be producing more gas from this well?

A No. No, we don't believe we will.

Q Let me have you look at your Exhibit Number Two, which is a log on the Harvard No. 1.

You indicated the top of the San Andres on that exhibit?

A Yes, we have.

Q You've also indicated the top of the Premier?

A Correct.

Q Can you explain that for the Examiner?

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2 A When we originally completed the well, we
3 completed it in the San Andres. Subsequent to that we de-
4 cided to test the premier zone and we perforated and tested
5 the zone and we had no production from it.

6 We had a verbal permission to leave those
7 perforations open in the Premier rather than squeezing them
8 off.

9 Q So they are presently open in the well.

10 A They are presently open and we're not
11 producing anything from them, but we show them on the log
12 because they are open.

13 Q Prior to the time that you perforated the
14 Premier, do you know what gas/oil ratio the well was
15 producing with?

16 A It was approximately 17,000. For
17 October, 1984, the GOR for the well was about 17000-to-1.

18 Q And that was at the time before the
19 perforation of the Premier?

20 A Correct.

21 Q After the Premier was perforated, do you
22 know what the gas/oil ratio was?

23 A For the month of November, which was then
24 the Premier was tested, our GOR was approximately 6500.
25 Subsequent to that, in December it went back up to 17,000
and has been about that ever since.

1
2 Q Can you conclude, then, that you are not
3 producing any gas from the Premier now?

4 A Yes.

5 Q This is all attributable to the (not
6 clearly understood)?

7 A Yes.

8 Q Do you have an opinion as to whether or
9 not granting Anadarko's application for an increase in the
10 gas/oil ratio to 5000 for the Harvard No. 1 for the Foster
11 San Andres Pool will prevent waste and protect correlative
rights?

12 A In my opinion it will.

13 Q And were Exhibits One through Four in Case
14 8726 prepared by you or under your supervision?

15 A Yes, they were.

16 MS. AUBREY: Mr. Quintana, I
17 tender Exhibits One through Six in Case 4575 and One through
four in Case 8726.

18 I have no more questions of the
19 witness.

20 MR. QUINTANA: Exhibits One
21 through Six in Case 8745 and Exhibits One through Four in
22 8726 will be entered as evidence in both these cases.

23 Bear with me a second.
24
25

CROSS EXAMINATION

BY MR. QUINTANA:

Q Is it Mr. Heffer?

A Peffer.

Q You recommended 5000 -- to continue a 5000 GOR limit on Case 4575.

A Yes.

Q In the previous order here it stated that, and I'll quote, that the evidence presented to establish that the South Eunice-San Andres Pool is an associated pool is inconclusive, and it also further went on to say that temporary special rules should be established so that the operator may again come in and prove whether or not it's an associated pool or a solution gas pool.

Q You'd recommend to me to continue 5000 GOR limit. On what do you base that? You haven't given me a basis for it.

A You want to know why we believe that the Lou Wortham No. 6 should stay as a -- as an oil well?

Q Right, and also why it should continue at 5000. You just stated to me you felt it should continue but you haven't stated to me why.

A Well, the -- from the evidence that we have, production figures, the structure map, the logs, we

1
2 don't believe that there is a gas cap.

3 Q You've established that there is not a
4 gas cap.

5 A Okay. The reason for continuing at 5000-
6 to-1 GOR, the field has been depleted to the point where
7 there is a high mobile gas saturation. We don't think that
8 we can produce, we can't produce without -- well, we can't
9 produce these wells without being overproduced at a 2000-to-
10 1 GOR, so 5000 is necessary for Anadarko to keep from over-
producing these wells.

11 Q Okay. That's fine. You specifically
12 covered what I wanted to hear.

13 I have one further question for you on
14 Case 4575.

15 You stated that in your professional
16 opinion that it will protect correlative rights.

17 Do you believe it will prevent waste?

18 A I believe that if the GOR limit reverts
19 back to 2000-to-1 we will leave oil in the ground that we
would have produced at the 5000-to-1 GOR.

20 Q On what do you base that?

21 A The fact that we are going to have to
22 curtail our production for the field to limit ourselves to
23 basically 5000 Mcf a month. Our oil production is going to
24 have to be curtailed, and we will leave reserves in the
25

1
2 ground.

3 Q If you curtail oil production at this
4 time, in your opinion you will not be able to produce that
5 same oil at a later time?

6 I know you'll be overproduced and have to
7 produce it at a later time, but will that in effect cause
8 oil to remain in the ground?

9 A I believe it will.

10 MR. QUINTANA: I have no fur-
11 ther questions on Case 4575 but I'm going to go on to Case
12 8726 and then if there's somebody else that has some ques-
13 tions I'll let them ask them.

14 Q In Case 8726 you state that you're making
15 your recommendation of a GOR limit of 5000 based on a pool
16 similar to the one in this exact case and you're basing this
17 recommendation on that other pool with similar characteris-
18 tics?

19 A No, that's not the only reason because of
20 the fact that Martindale received it.

21 We're overproduced at the -- at the 2000-
22 to-1 GOR. We feel that, you know, at a 5000-to-1 we can
23 produce the well without being -- without having any gas
24 overproduction, and again, if we were to curtail it, you
25 know, we feel we would leave reserves in the ground. The
economic limit of the field is at a point where if we cur-

1 tail our oil production we are not going to make any money
2 and if we don't make money we're not going to produce the
3 well.

4 Q You also stated that the perforations in
5 the Premier formation, you're not producing any oil?

6 A No.

7 Q What was the reason for deciding not to
8 squeeze those perfs?

9 A I wasn't -- I really don't have a reason
10 for that. We felt that there was no production coming from
11 the zone. I was not with the company at that time. I did
12 not work on that particular aspect of the well, so I really
13 can't answer that.

14 Q Do you believe by keeping those perfs
15 open you're causing any waste of gas or oil due to the large
16 pressure difference between those zones?

17 A No, I don't -- I don't think there is a
18 pressure difference between those zones. You know, I don't
19 think it would be a thief zone or anything of that sort.

20 MR. QUINTANA: I have no fur-
21 ther questions of the witness.

22 Are there further questions of
23 the witness?

24 MS. AUBREY: Yes, Mr. Quintana,
25 I have some; a couple or three questions for him.

REDIRECT EXAMINATION

BY MS. AUBREY:

Q At a 5000-to-1 gas/oil ratio for both cases, I believe you testified that you're going to be producing significantly more gas out of either well.

A No.

Q But you will be producing more oil, is that correct?

A Yes.

Q Will you be producing oil that would be otherwise left in the ground at a 2000-to-1 gas/oil ratio?

A Again, back to the point I made on the economic limit, if we are forced to curtail our oil production and the money we generate from the production from these wells falls below our economic limit, we will shut them in, and at a 2000-to-1 GOR limit the oil production we will produce, I would think, will be below the economic limit of the field.

Q I believe you testified that you would drop to less than 30 barrels of oil per month, is that right?

A I would -- yeah, I would say it would be somewhere in that range.

Q And in August the Lou Wortham No. 6, Aug

1
2 ust of '85 the Lou Wortham No. 6 produced 278 barrels of oil
3 a day?

4 A Yes, it did.

5 Q At the 5000 GOR?

6 A At the 5000-to-1.

7 Q And the Harvard No. 1 produced 392 bar-
8 rels of oil a day?

9 A Oh, that's -- these are -- these are
10 monthly figures.

11 Q I'm sorry, a month?

12 A Yes, they did.

13 Q And you will significantly reduce that
14 oil production if you have to go to (not clearly understood)
15 GOR.

16 A Yes.

17 Q Do you have anything else you'd like to
18 add to your testimony?

19 A No, I do not.

20 MS. AUBREY: I have no more
21 questions.

22 MR. QUINTANA: I have no fur-
23 ther questions of the witness.

24 Are there anybody else who
25 would like to question the witness?

If not, he may be excused.

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Case -- is there anything
further in Case 4575 and Case 8726?

MS. AUBREY: I have nothing
further.

MR. QUINTANA: If not, Cases
4575 and Case 8726 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. 4575 8726
heard by me on October 9 1985.

David Catamuck, Examiner
Oil Conservation Division