

1 STATE OF NEW MEXICO  
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
3 OIL CONSERVATION DIVISION  
4 STATE LAND OFFICE BUILDING  
5 SANTA FE, NEW MEXICO

6 26 April 1989

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of Mobil Producing Texas CASE  
10 and New Mexico, Inc for downhole co- 9660  
11 mingling, Lea County, New Mexico.

12 BEFORE: David R. Catanach, Examiner

13 TRANSCRIPT OF HEARING

14 A P P E A R A N C E S

15 For the Division: Robert G. Stovall  
16 Attorney at Law  
17 Legal Counsel to the Division  
18 State Land Office Building  
19 Santa Fe, New Mexico

20 For Mobil Producing Texas W. Perry Pearce  
21 and New Mexico, Inc.: Attorney at Law  
22 MONTGOMERY & ANDREWS  
23 P. O. Box 2307  
24 Santa Fe, New Mexico 87504  
25

## I N D E X

## WILLIAM PORTER GOSSETT

Direct Examination by Mr. Pearce 3

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## E X H I B I T

Mobil Producing Exhibit One, Plat, etc. 5

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Mobil Producing Exhibit Three, Graph, etc. 8

Mobil Producing Exhibit Four, Data Sheet 9

Mobil Producing Exhibit Five, Letter 12

1 MR. CATANACH: Let's call Case  
2 9660.

3 MR. STOVALL: That's the ap-  
4 plication of Mobil Producing Texas and New Mexico, Inc.,  
5 for downhole commingling, Lea County, New Mexico.

6 MR. CATANACH: Are there ap-  
7 pearances in this case?

8 MR. PEARCE: May it please the  
9 Examiner, I am W. Perry Pearce of the Santa Fe law firm of  
10 Montgomery & Andrews, appearing in this matter on behalf of  
11 Mobil Producing Texas and New Mexico, Inc..

12 I have one witness who needs  
13 to be sworn.

14 MR. CATANACH: Any other ap-  
15 pearances?

16 Will the witness please stand  
17 and be sworn in?

18  
19 (Witness sworn.)  
20

21 WILLIAM PORTER GOSSETT,  
22 being called as a witness and being duly sworn upon his  
23 oath, testified as follows, to-wit:  
24

25 DIRECT EXAMINATION

1 BY MR. PEARCE:

2 Q Thank you, sir. For the record, would  
3 you please state your full name and employer?

4 A My name is William Porter Gossett and I  
5 work for Mobil Exploration and Producing, U.S., Inc.

6 Q Mr. Gossett, what are your responsibi-  
7 lities and what is your position with Mobil?

8 A My position with Mobil is an operations  
9 engineer and my responsibilities are subsurface mainte-  
10 nance, well reconditioning, and drill deep and recomple-  
11 tions of producing injection wells.

12 Q Is there a geographical area that -- for  
13 which you are responsible?

14 A I'm responsible for the areas of Eddy  
15 County and Lea County, New Mexico.

16 Q And how long have you held that posi-  
17 tion, Mr. Gossett?

18 A For one year and 10 months.

19 Q All right, Mr. Gossett, have you ap-  
20 peared before the New Mexico Oil Conservation Division,  
21 either examiners or the Oil Conservation Commission, and  
22 had your qualifications as an expert in petroleum engineer-  
23 ing made a matter of record?

24 A No, I have not.

25 Q All right, would you briefly summarize

1 for us, please, your educational background as it relates  
2 to petroleum engineering and your work experience?

3 A I graduated from Texas A & M University  
4 with a Bachelor of Science in petroleum engineering. I  
5 graduated in May of 1987. At that time I began work with  
6 Mobil in the Hobbs, New Mexico, office, working with the  
7 wells in Eddy County and Lea County.

8 Q All right, sir, at this time -- and  
9 are you familiar with the application of Mobil in this case  
10 today?

11 A Yes, I am.

12 MR. PEARCE: At this time, Mr.  
13 Examiner, I request that Mr. Gossett be qualified as an  
14 expert in the field of petroleum engineering.

15 MR. CATANACH: He is so qual-  
16 ified.

17 Q Mr. Gossett, at this time let's begin by  
18 turning to what we've marked as Exhibit Number One to this  
19 proceeding, and I would like for you to briefly summarize  
20 what's reflected on the first page of that exhibit, please.

21 A The first page of Exhibit One is a plat  
22 indicating the Brunson-Argo Lease owned by Mobil Oil Cor-  
23 poration, indicating wells that produce in the Drinkard and  
24 the Blinebry zones within Section 10 and 9 of Township 22  
25 South, Range 37.

1           Q           And the Brunson-Argo Lease, as I under-  
2 stand it, is the northwest quarter of Section 10 and the  
3 northeast quarter of Section 9, is that correct?

4           A           That is correct.

5           Q           All right. I notice in the descriptive  
6 part of that exhibit it says only Blinebry and Drinkard  
7 wells are shown, is that correct?

8           A           That is correct.

9           Q           There are other wells in other horizons  
10 in this area?

11          A           That is correct.

12          Q           All right, sir, at this time let's turn  
13 to the second page of Exhibit Number One, please, and dis-  
14 cuss that for the Examiner.

15          A           The second page is a schematic of the  
16 Brunson-Argo No. 6 Well indicating the current equipment in  
17 the well at this time.

18          Q           And this well appears to be dually com-  
19 pleted, Blinebry and Drinkard, with a Model D Baker packer  
20 set at 6250, is that correct?

21          A           That is correct.

22          Q           All right. Let's turn to the third page  
23 of Exhibit One and discuss that for the examiner, please.

24          A           Page 3 indicates a schematic of what  
25 would be proposed to run into, the Brunson-Argo 6 Well, in

1 a commingled, downhole commingled, state, commingling the  
2 Blinbry and the Drinkard, with the tubing and steel rods  
3 and rod pump installation.

4 Q Okay, and the pump would be set on the  
5 bottom of that hole, is that correct?

6 A That is correct.

7 Q All right, sir, at this time let's turn  
8 to what we've marked as Exhibit Number Two, please. Would  
9 you discuss that graphical display for us?

10 A Exhibit Two illustrates the production  
11 history of the Brunson-Argo No. 6 Drinkard formation with  
12 the red indicating the gas and oil and the green, water  
13 production.

14 Q As you're looking at this graphical dis-  
15 play, it appears the beginning, at least at the end of 1975  
16 and possibly before, there has been a rather severe pro-  
17 duction decline from the Drinkard Zone in this well. To  
18 what do you attribute that decline?

19 A I attribute the decline to a build-up of  
20 fluids on the formation.

21 Q And that's part of the problem that  
22 we're hoping to solve with the dual completion?

23 A That is correct.

24 Q All right, sir. Attached to the graph-  
25 ical display are three pages of tabular information. That

1 is the tabular information represented in the graphical  
2 display, is that correct?

3 A That is correct.

4 Q All right, sir, let's look at Exhibit  
5 Number Three, please, and discuss that for the Examiner.

6 A Exhibit Number Three illustrates the  
7 production history of the Brunson-Argo No. 6 Well, of the  
8 Blinebry formation, again with the same colors indicating  
9 -- red is gas and green is oil and blue is water.

10 Q Okay, looking at this display it shows a  
11 decline beginning in approximately late 1986. Do you have  
12 an opinion upon whether or not that is natural decline or  
13 whether or not the Blinebry zone is being affected by  
14 build-up?

15 A The Blinebry Zone is, as well, being  
16 affected by build-up of fluids.

17 Q Do you believe that if that fluid build-  
18 up problem can be eliminated, the decline of the Blinebry  
19 Zone will be less severe? Is that correct?

20 A That is correct.

21 Q All right, sir, and once again there's  
22 tabular information attached to the graphical display.

23 A That is correct.

24 Q All right, let's look at what we've  
25 marked as Exhibit Number Four, please. Would you describe



1 that for us?

2 A Exhibit Number Four illustrates the  
3 basic information of the Brunson-Argo No. 6 Well, indi-  
4 cating its location and the zones that are currently being  
5 produced in the well.

6 Q Okay, let's look specifically at this  
7 time at Item No. 8 on that data sheet, if you would,  
8 please, and could you describe for the record and the exa-  
9 miner the information reflected in that part of the exhi-  
10 bit?

11 A Item No. 8 illustrates in columns the  
12 Blinebry and the Drinkard formation.

13 The column under the heading of Flow  
14 under the Blinebry indicates the current production poten-  
15 tial of the Blinebry zone as it is in the current condi-  
16 tion. The Proposed under the Blinebry, Proposed To Pump,  
17 indicates what we would anticipate to produce in a pump  
18 situation.

19 Likewise, in the Drinkard zone under the  
20 Flow, that is what the well is currently able to produce at  
21 this time under current conditions, and under Produced To  
22 Pump, that is what I believe that we would -- that the  
23 Drinkard would be able to produce under a pump situation.

24 Q All right, sir. It is possible because  
25 of the mechanical configuration of this well, to pump the

1 well without comingling the zones?

2 A Not at this time.

3 Q All right, sir. One of the items of  
4 interest in commingled wells the determination of an appro-  
5 priate allocation formula for oil and gas in the commingled  
6 stream. Looking at the production information projected  
7 under pump for both Blinebry and Drinkard zones, and in  
8 view of your experience with other Blinebry and Drinkard  
9 wells, what is your opinion of the appropriate allocation  
10 formula for oil and gas between the two zones if coming-  
11 ling is approved?

12 A I believe the appropriate distribution  
13 would be 70 percent of the commingled produced gas and  
14 fluid to be attributed to the Blinebry and 30 percent of  
15 the combined production stream to be that of Drinkard.

16 Q All right, sir, the final line of Item  
17 No. 8 of that exhibit discusses the gas allowables and as I  
18 understand the information set forth on that exhibit, the  
19 Blinebry is a prorated pool under Oil Conservation Division  
20 rules and regulations, is that correct?

21 A That is correct.

22 Q Do you believe that the proposed produc-  
23 tion rates and allocation formulas would cause or suffer  
24 significant impact from those Oil Conservation Division  
25 proration rules?

1           A           No, I do not.

2           Q           All right, sir. At this time, if we  
3 could, I'd like to turn to page 2 of Exhibit Number Four.  
4 Could you describe that for us, please?

5           A           Page 2 indicates a pressure survey con-  
6 ducted by JL Services of Hobbs, New Mexico, in order to  
7 analyze the pressures across the face of the Drinkard for-  
8 mation.

9           Q           And that is on the -- this particular  
10 well, the Argo 6 Well, is that correct?

11          A           Yes, it is the Brunson-Argo No. 6 Well.

12          Q           All right. What information have you  
13 derived from that pressure survey?

14          A           From that pressure survey we identified  
15 the pressure at the face of the Drinkard to be 405 pound  
16 per square inch.

17          Q           All right, sir. Looking back to the  
18 first page of the exhibit, Line 10, the Drinkard pressure  
19 shown on the data sheet is 405 pounds at 6376 feet and this  
20 JL Services is the source of that information, is that  
21 correct?

22          A           That is correct.

23          Q           All right, sir. Let's look now, please,  
24 at the third page of Exhibit Number Four and discuss that  
25 for us, please?

1           A           The third page indicates the pressure  
2 calculation that was used to determine the pressure at the  
3 face of the Blinebry formation after a 4-day shut-in and  
4 then using a sonic tool to measure (not clearly under-  
5 stood).

6           Q           And what was the pressure derived from  
7 that calculation?

8           A           The pressure derived was 881 pounds per  
9 square inch.

10          Q           All right, sir. When we were a few  
11 moments ago looking at Section 8 of page 1 of this exhibit,  
12 you indicated that the projected production from a com-  
13 mingled well under pump and the production history of  
14 Blinebry and Drinkard wells in the vicinity led you to the  
15 conclusion that a 70 percent Blinebry and 30 percent  
16 Drinkard allocation for both oil and gas was appropriate.

17                   My question now is in view of the in-  
18 formation reflected in Items 9 and 10, as supported by the  
19 second and third pages, whether or not you believe that  
20 that supports the 70/30 allocation formula we've discussed?

21          A           I believe it does support it.

22          Q           Let's look now, if we could, please, at  
23 what we've marked as Exhibit Number Five to this proceed-  
24 ing. Could you describe that exhibit for us?

25          A           This exhibit is a letter generated by

1 Mobil to notify the bordering operators to the Brunson-Argo  
2 No. 6 Well.

3 Q Okay, looking back at the first page of  
4 Exhibit Number One, the operators who were given notice  
5 pursuant to Division Rule 1207 are the surrounding opera-  
6 tors as shown on that plat, is that correct?

7 A That is correct.

8 Q All right. Do you have anything else on  
9 this case at this time. Mr. Gossett?

10 A No, sir, I do not.

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

13 I would move the admission of  
14 Mobil Exhibits One through Five to this proceeding.

15 MR. CATANACH: Exhibits One  
16 through Five will be admitted as evidence.

17

18 CROSS EXAMINATION

19 BY MR. CATANACH:

20 Q Mr. Gossett, are both these zones com-  
21 monly owned by Mobil?

22 A Yes, they are.

23 Q The Blinebry is currently classified as  
24 gas, is it not?

25 A That is correct.

1 Q And it's your opinion that it's going to  
2 maintain the same gas/oil ratio after recompletion or after  
3 commingling?

4 A We would anticipate that it would.

5 Q Do you know if that well is considered a  
6 marginal well in the --

7 A Yes, it is considered a marginal well at  
8 this point.

9 Q It is marginal?

10 A Yes, sir.

11 Q Tell me how you reached the allocation  
12 that you did, how you arrived at that.

13 A The allocation was arrived at based on  
14 the production history of other wells in similar zones  
15 under a pumped condition.

16 Q What other wells were you using?

17 A Brunson-Argo No. 1, Brunson-Argo No. 13,  
18 and Brunson-Argo No. 17.

19 MR. PEARCE: For clarification,  
20 are any of those wells commingled?

21 A No, sir.

22 Q None of those wells are commingled?

23 A No, sir. None of them are commingled in  
24 the Blinebry and Drinkard formations.

25 Q You just used what, their production

1 decline?

2           A           Their production declines and their  
3 response to the installation of a pump into -- into the  
4 decline curve.

5           Q           I see. Do you think there's a possibi-  
6 lity that you could get too much production so, let's say,  
7 you might have to shut the well in in the Blinebry Pool  
8 because of overproduction (not clearly understood)?

9           A           Excuse me, could you repeat that?

10          Q           Being that the well will still be in the  
11 Blinebry prorated gas pool, is there a chance that you  
12 think that the well might become overproduced so that you  
13 might have to shut the well in?

14          A           I would say there is always a chance but  
15 from the historical proration, it doesn't seem like it will  
16 occur.

17          Q           If it -- if it does, do you think  
18 there's a chance you would lose some reserves?

19          A           I don't believe that we would lose re-  
20 serves. I believe any reserves could be recovered.

21                           MR. CATANACH: I don't have  
22 anything further of this witness.

23                           The witness may be excused.

24                           MR. PEARCE: Nothing further,  
25 Mr. Examiner.

1 MR. CATANACH: There being  
2 nothing further in Case 9660, it will be taken under ad-  
3 visement.  
4

5 (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 correct record of the proceedings in  
the Examiner Hearing of Case No. 9660,  
heard by me on April 26 1989.

David R. Catamb, Examiner  
Oil Conservation Division