

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

8 August 1984

EXAMINER HEARING

IN THE MATTER OF:

Application of Amoco Production Com-	CASE
pany for downhole commingling, Rio	8296
Arriba County, New Mexico.	

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation	W. Perry Pearce
Division:	Attorney at Law
	Oil Conservation Commission
	State Land Office Bldg.
	Santa Fe, New Mexico 87501

For the Applicant:	Gary L. Paulson
	Attorney at Law
	Amoco Production Company
	17th and Broadway
	Denver, Colorado 80202

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

A P P E A R A N C E S

For Amoco Production Co.: William F. Carr  
Attorney at Law  
CAMPBELL AND BLACK P.A.  
P. O. Box 2208  
Santa Fe, New Mexico 87501

I N D E X

CHARLES BOYCE  
Direct Examination by Mr. Paulson 3

E X H I B I T S

Amoco Exhibit One, Plat 4  
Amoco Exhibit Two, Schematic 6  
Amoco Exhibit Three, Tabulations 7  
Amoco Exhibit Four, Data 8

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

MR. STAMETS: We'll call now  
Case 8296.

MR. PEARCE: That case is on  
the application of Amoco Production Company for downhole  
commingling, Rio Arriba County, New Mexico.

MR. PAULSON: Gary Paulson, ap-  
pearing in association with Mr. Bill Carr of the firm of  
Campbell, Byrd and Black. Entry of appearance should be  
present in your file.

We have one witness and four  
exhibits.

MR. PEARCE: Let the record re-  
flect, please, that the witness has been previously sworn  
and qualified and remains under oath.

CHARLES BOYCE,  
having been previously sworn and qualified, testified as  
follows, to-wit:

DIRECT EXAMINATION

BY MR. PAULSON:

Q Mr. Boyce, you are familiar with the ap-  
plication that's been filed in this cause?

A Yes.

Q It's in the same area, is that correct?

A It is located approximately two miles

1 southwest of the area included in our previous application,  
2 8295.  
3

4 Q Could you refer, then, to Exhibit Number  
5 One in this cause and explain that exhibit for us, please?

6 A This exhibit, within the heavy dashed  
7 outline, shows the areal extent of our Fred Phillips Lease,  
8 lying in all of Section 10 and the north half of Section 15,  
9 Township 25 North, Range 3 West.

10 In the southwest quarter of the northwest  
11 quarter of Section 15 is shown the Amoco Fred Phillips "C"  
12 No. 3 Well, which was recently drilled and tested in the  
13 Mesaverde, Gallup and Dakota horizons.

14 The legend shows the designation of com-  
15 pletions of other wells in surrounding sections.

16 The black dot indicates a current Gallup-  
17 Dakota completion.

18 The gas well symbol with a black interior  
19 indicates wells which are presently completed and commingled  
20 in the Mesaverde, Gallup and Dakota formations.

21 The gas well designation is for single  
22 Mesaverde gas completions.

23 This area falls within the Blanco Mesa-  
24 verde Gas Pool, as far as the Mesaverde is concerned.

25 Q And this application differs from the one  
in Case 8295 in that the Mesaverde would be included within  
the commingled zones, is that correct?

A That's correct. In this particular area

1  
2 the Mesaverde, although it is not a highly commercial zone,  
3 appears to be productive enough that we can justify individ-  
4 ually perforating and fracing that zone and producing it, if  
5 it can be commingled with the Gallup and Dakota.

6 Q You say "if it can be commingled". The  
7 Mesaverde is a gas horizon.

8 A That's correct.

9 Q With a little bit higher GOR than --

10 A Yes, it's still designated as a gas pool.  
11 The Gallup and Dakota appear to be very definitely oil pro-  
12 ductive appearing.

13 Q Has the Commission previously authorized  
14 blanket commingling of these three zones in nearby leases?

15 A Yes. The -- the most recent that I'm  
16 familiar with was an application by Union Texas Petroleum,  
17 after which the Commission order granted commingling of  
18 these three horizons in all of Section 9 and the south half  
19 of Section 3 on this plat, both of which are immediately ad-  
20 jacent to our lease.

21 MR. STAMETS: Do you have that  
22 order number?

23 A Yes, it's Order No. 8148, April 20th,  
24 1984.

25 MR. STAMETS: Thank you.

MR. PAULSON: The case number  
is 8148. I think the order number is R-7506 that was en-  
tered April 20th of '84.

I have a copy.

MR. STAMETS: That would be a help.

Q Mr. Boyce, is the ownership common in each of the three zones proposed to be commingled within the area identified?

A Yes, the working interest and royalty interest is common under any well which we either have drilled or would drill on this lease.

Q Referring, then, to Exhibit Number Two, would you identify that exhibit and explain its significance, please?

A Exhibit Number Two is a schematic of the downhole completion configuration of the first well we've drilled on our lease to these horizons, the Fred Phillips "C" No. 3, showing the casing and cementing program, the intervals which were perforated and subsequently fraced in the Mesaverde, the Gallup, and the Dakota formations.

Q And this is similar to the mechanical setup in -- that was demonstrated in Exhibit Two to Case 8295, is that correct?

A Yes, identical with the exception of in this area we have opened the Mesaverde also.

Q So that again here you used 7-inch casing not knowing what horizons might be productive, but you would perhaps anticipate that other wells drilled within the area identified might use 4-1/2 inch casing.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

A That's correct, yes.

Q Other than that you would anticipate that the mechanical setup would be similar.

A On -- on future wells that we drill in this section, yes. We do have four additional wells permitted in this lease, which we will drill subsequent to this hearing if the order is issued.

Q Okay. And again the production string that's indicated on Exhibit Two is not in fact in place.

A The tubing string is not. We still have the zones segregated. We've completed testing and once approval is obtained, we'll remove the bridge plugs between the horizons and run one string of production tubing, as shown here.

Q Would you explain a typical completion, as you would envision it within the area identified?

A Basically perforating, fracturing each zone; testing for a period sufficient to determine some stabilized rate on which we can base long term allocations; isolating that zone; proceeding to the next zone, perforating, fracturing, testing, with the Dakota, Gallup and Mesa-verde.

Q Referring then to Exhibit Three, it's a three part exhibit, A, B and C. Would you address each one of those pages separately, please?

A Exhibit Three-A shows a three week test of the Blanco Mesaverde horizon in the Fred Phillips "C" 3,

1  
2 during which we swabbed and flow tested the well to deter-  
3 mine the oil and gas rate from this well. It appears that  
4 it's reasonably well stabilized as far as this early a pro-  
5 duction test.

6 It does have a fairly high GOR, as we  
7 show later, although not exceptionally high.

8 Q And B then?

9 A B is the test we performed on the Gallup  
10 horizon, again showing fairly stabilized oil and gas produc-  
11 tion.

12 Q And C.

13 A Three-C, a similar test on the Dakota  
14 horizon, showing again reasonably stabilized oil and on this  
15 particular horizon there wasn't enough gas produced to  
16 measure, which is not untypical of the Dakota. Basically it  
17 does generally produce some gas in the area but individual  
18 wells can vary somewhat within this range.

19 Q And again your request in this applica-  
20 tion is not that the order entered in this cause specify the  
21 allocation as between the horizons but that the District  
22 Supervisor make that determination based on this and subse-  
23 quent tests, is that correct?

24 A That's correct, yes.

25 Q Okay. Referring then to Exhibit Four,  
would you identify that for the Examiner, please?

A Exhibit Four, the second well shown is  
the Fred Phillips "C" 3. It does show for the three forma-



1 tions, the Mesaverde, Gallup and Dakota, measured or esti-  
2 mated oil gravities during the test period; gas/oil ratios  
3 as measured and reported on our completion reports, and bot-  
4 tom hole pressures which were measured with bomb runs after  
5 the production test of each of these zones.

6 The oil gravities of the Gallup and Dako-  
7 ta are similar, as we would expect. The Mesaverde has a  
8 substantially higher gravity, more tending towards conden-  
9 sate; a correspondingly higher gas/oil ratio, although de-  
10 finitely not in the range that we would see on a dry gas  
11 well. The Mesaverde in this area does produce substantial  
12 amounts of liquid.

13 The bottom hole pressures shown, again  
14 are as we would expect for these three horizons and no one  
15 of the pressures is less than half of the highest pressure,  
16 which is the Dakota, an indication that on commingling, with  
17 reasonably continuous production, there would not be any  
crossflow between horizons.

18 Q The fluids from these zones are in fact  
19 compatible, you're saying?

20 A That's correct, yes.

21 Q And the reservoir characteristics of each  
22 of the zones is such that underground waste would not be  
caused by commingling.

23 A Not in my opinion, no.

24 Q As indicated in Exhibit Three, each of  
25 these zones is, in fact, or is anticipated to be productive

1  
2 in low rates, is that correct?

3 A Yes.

4 Q And do you have an opinion as to whether  
5 it would be economically possible to drill separate wells to  
6 each horizon?

7 A It really would not, and to attempt such  
8 would be to ultimately result in waste, since one or more of  
9 the horizons wouldn't be developed.

10 Q Now the -- this area identified in Exhi-  
11 bit One is, in fact, within a mile of the Ojito Gallup-Dako-  
12 ta, is that correct?

13 A It is, based on wells which have recently  
14 been completed, including the Union Texas McCrodden Wells  
15 which offset it, so it's essentially within a mile of exist-  
16 ing Ojito Gallup-Dakota production, and I would recommend  
17 that based on the completion of our well in Section 15, the  
18 area we have requested be included within that Ojito Gallup-  
19 Dakota Pool.

20 Q The difference here is that you have the  
21 Mesaverde included, as well.

22 A That's correct. The blanket approval  
23 we're requesting for Mesaverde, Gallup and Dakota, would re-  
24 quire a Commission order to commingle Mesaverde on a blanke  
25 basis.

26 Q Exhibits One through Four were prepared  
27 by you or under your supervision and control?

28 A Yes.

1  
2 MR. PAULSON: Mr. Examiner,  
3 that's all we have. We would offer Exhibits One through  
4 Four.

5 MR. STAMETS: The exhibits will  
6 be admitted.

7 Any questions of the witness?  
8 He may be excused.

9 Anything further on this case?  
10 The case will be taken under  
11 advisement.

12 (Hearing concluded.)  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
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 Con-  
servation Division was reported by me; that the said tran-  
script 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 and correct transcript of the proceedings in  
the Ex parte hearing of Case No. 8296  
heard by me on 8-8-84 19 84.  
Ruehan P. Ham, Examiner  
Oil Conservation Division