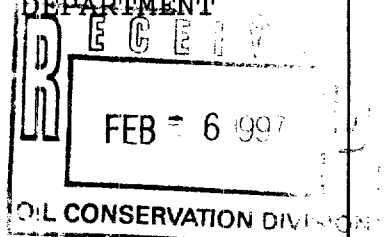


STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



IN THE MATTER OF THE HEARING CALLED BY)
 THE OIL CONSERVATION DIVISION FOR THE)
 PURPOSE OF CONSIDERING:)

APPLICATION OF PHILLIPS PETROLEUM)
 COMPANY FOR THE ESTABLISHMENT OF A)
 DOWNHOLE COMMINGLING REFERENCE CASE FOR)
 ITS SAN JUAN 29-5 UNIT PURSUANT TO)
 DIVISION RULE 303.E AND THE ADOPTION OF)
 SPECIAL ADMINISTRATIVE RULES THEREFOR,)
 SAN JUAN COUNTY, NEW MEXICO)

CASE NOS. 11,708

APPLICATION OF PHILLIPS PETROLEUM)
 COMPANY FOR THE ESTABLISHMENT OF A)
 DOWNHOLE COMMINGLING REFERENCE CASE FOR)
 ITS SAN JUAN 30-5 UNIT PURSUANT TO)
 DIVISION RULE 303.E AND THE ADOPTION OF)
 SPECIAL ADMINISTRATIVE RULES THEREFOR,)
 SAN JUAN COUNTY, NEW MEXICO)

and 11,709

(Consolidated)

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS
EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

January 23rd, 1997
 Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, January 23rd, 1997, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

STEVEN T. BRENNER, CCR
 (505) 989-9317

I N D E X

January 23rd, 1997

Examiner Hearing

CASE NOS. 11,708 and 11,709 (Consolidated)

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* * *

A P P E A R A N C E S

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 By: W. THOMAS KELLAHIN

* * *

1 WHEREUPON, the following proceedings were had at
2 9:26 a.m.:

3 EXAMINER CATANACH: At this time I'll call Case
4 11,708, the Application of Phillips Petroleum Company for
5 the establishment of a downhole commingling reference case
6 for its San Juan 29-5 Unit pursuant to Division Rule 303.E
7 and the adoption of special administrative rules therefor,
8 San Juan County, New Mexico.

9 Call for appearances.

10 MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of
11 the Santa Fe law firm of Kellahin and Kellahin, appearing
12 on behalf of the Applicant in this case.

13 We'd request your permission to consolidate this
14 case for purposes of hearing with the following case, which
15 is 11,709.

16 EXAMINER CATANACH: At this time we'll call Case
17 11,709, which is the Application of Phillips Petroleum
18 Company for the establishment of a downhole commingling
19 reference case for its San Juan 30-5 Unit pursuant to
20 Division Rule 303.E and the adoption of special
21 administrative rules therefor, San Juan County, New Mexico.

22 Additional appearances in either of these cases?

23 Okay, can I get the witnesses to stand and be
24 sworn in at this time?

25 MR. KELLAHIN: Yes, sir, I have two witnesses.

(Thereupon, the witnesses were sworn.)

PATRICK H. NOAH,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Noah, for the record, sir, would you please state your name and occupation?

A. Patrick Noah. I'm a senior land specialist for Phillips Petroleum Company.

Q. On prior occasions, Mr. Noah, have you testified before the Division?

A. No, I have not.

Q. Summarize for us your experience as a petroleum landman.

A. Since 1981 I have worked for Slawson Exploration Company, Inc., and Phillips Petroleum company as a landman, with lease and contract administration duties in the mid-continent, Rocky Mountains, offshore, and since 1994 in the San Juan Basin.

Q. Do your current duties as a landman include the San Juan 29 and 5, and 30 and 5 units?

A. Yes, sir.

Q. Have you caused Phillips Petroleum Company to review their data, to identify all the interest owners

1 within the unit entitled to share in production from the
2 unit?

3 A. Yes, I have.

4 Q. And that's true of both units?

5 A. Yes.

6 MR. KELLAHIN: We tender Mr. Noah as an expert
7 petroleum landman.

8 EXAMINER CATANACH: He is so qualified.

9 Q. (By Mr. Kellahin) Mr. Noah, let's start with the
10 exhibit book for the 29 and 5 unit. We'll go through that
11 as our example, and then we can supplement it with the
12 exhibit book for the 30 and 5.

13 If you'll turn to the first exhibit, It's Exhibit
14 A in the exhibit book. Let's take a moment and identify
15 for the Examiner what he's seeing on this display.

16 A. Well, Exhibit A.1 is a map of the entire San Juan
17 29-5 unit, with the unit boundaries shown in the dashed
18 line, and all wells also shown.

19 Q. The wells are coded in such a manner by shape and
20 color code that it will identify the formation in which
21 that well is dedicated?

22 A. Yes.

23 Q. Let's turn behind that display and have you
24 summarize for us the tabulation that's next shown in the
25 exhibit book.

1 A. What I've done on the next page is to take the
2 four participating areas for the Fruitland, Pictured
3 Cliffs, Mesaverde and Dakota and summarize the current
4 status of those participating areas, the effective dates,
5 expansions, acreage, and the current working interest
6 ownership.

7 Q. Based upon your study, have you been able to
8 determine the ownership for each of the areas in the unit
9 with regards to all formations?

10 A. Yes, I have.

11 Q. So even if we have an area in the unit that is
12 outside any of the current participating areas, you are
13 able to identify the parties entitled to share in that
14 production, if the areas is ever drilled and produced?

15 A. That's correct.

16 Q. Behind the tabulation of percentages, what do you
17 then have?

18 A. Then I -- behind the tabbed percentages, what
19 I've done is broken out on a participating area basis
20 each -- a map for each participating area, starting with
21 the Fruitland Coal and the Pictured Cliffs, Mesaverde and
22 Dakota, just to illustrate where the participating area
23 lands are located within the unit.

24 Q. In reviewing it, it appears that the unit is most
25 fully developed in the Mesaverde reservoir?

1 A. Yes.

2 Q. All right. Following the displays of the
3 participating area is a certificate in this case,
4 indicating that on January 2nd of 1997, you sent
5 notification?

6 A. Yes.

7 Q. When you sent notification, was it by certified
8 mail and did it include a copy of the Application to all
9 the parties that were listed?

10 A. Yes, it did.

11 Q. What is contained, then, when we look at the
12 information behind the certificate?

13 A. Behind the certificate are copies of our receipts
14 of mailing, on each of those mailings we made.

15 Q. Okay. Right behind the certificate is two pages,
16 photocopies of green cards. What do those represent?

17 A. Those are offsetting operators that were
18 notified.

19 Q. So after we pass the first two pages, then there
20 is a tabulation consisting of two pages in which there is a
21 list of names of individuals and companies?

22 A. Yes, and this is a list of the various working
23 interest, overriding royalty interest and royalty interest
24 owners within the 29-5 unit for all formations.

25 Q. Okay. And then after that is copies of the green

1 cards by which all those notifications were sent?

2 A. Yes.

3 Q. Have you received any objection from any of the
4 interest owners concerning this application?

5 A. No, I have not.

6 Q. Do you have an estimate for 1997 of the potential
7 number of commingled applications that you might be asked
8 to file on behalf of your company in this unit?

9 A. No, I don't.

10 Q. Hasn't been yet determined?

11 A. It has not yet been determined.

12 Q. When we look at the total number of parties to
13 be notified in each individual commingling Application,
14 potentially how many would need to be notified in the
15 29-and-5 unit?

16 A. Approximately 190 owners.

17 Q. A hundred and ninety?

18 A. One hundred and ninety owners are required --

19 Q. Okay.

20 A. -- to be notified for the 29-5 unit alone.

21 Q. If the Division grants us an exception from the
22 notification rule, it would save you the administrative
23 burden of notifying potentially that many owners every time
24 you would file a commingling application in the unit?

25 A. Yes, it sure would.

1 MR. KELLAHIN: That concludes my examination of
2 Mr. Noah.

3 We move the introduction of his exhibits behind
4 Exhibit A.

5 EXAMINER CATANACH: Exhibit A will be admitted as
6 evidence.

7 Q. (By Mr. Kellahin) All right, let me take a
8 moment now and take you through the other book.

9 A. All right.

10 Q. Let's turn to the exhibit book for the San Juan
11 30 and 5. Your displays and your method of handling
12 tabulation of ownership and providing notices are the same
13 as you did for the 29 and 5?

14 A. Yes, that's correct.

15 Q. Let's start with the first page, then, and have
16 you identify this display.

17 A. This, again, is a summary of the unit overall,
18 with the boundaries shown in dotted lines, and the
19 producing wells from all formations also shown and
20 identified in various color and shape symbols.

21 Q. All right, sir, and the next page?

22 A. The next page, again, is a PA ownership summary
23 for the various participating areas, working interest
24 ownership for all formations.

25 Q. All right. And then the first participating area

1 display?

2 A. First participating area display is the Fruitland
3 Coal development. It identifies the leases that are within
4 the participating area. It constitutes about 11,000-plus
5 acres.

6 Then we follow that with the Pictured Cliffs,
7 which is rather small, Mesaverde and Dakota.

8 Q. All right. And then we get to your certificate.
9 It attests to the fact that on December 31 of 1996, you
10 provided notice, certified mail return receipt, to all the
11 interest owners by sending them a copy of the notice letter
12 and the application?

13 A. Yes.

14 Q. Did you tabulate the interest owners in the same
15 fashion for this unit as you did for the 29 and 5?

16 A. Yes, I did.

17 Q. Were you able to satisfy yourself that you had
18 accounted for all the interest owners in the unit?

19 A. Yes.

20 Q. Did you receive any objection from any of the
21 interest owners?

22 A. No, I did not.

23 Q. And again, when we look at how the certificate is
24 organized, the first three pages behind the certificate
25 represent offsetting operators. Then after that is a typed

1 list of the interest owners within the unit, followed by
2 copies of the return receipt cards or copies of proof of
3 notice of sending?

4 A. That's correct.

5 Q. How many interest owners potentially are you to
6 notify in the 30-and-5 unit, in the event the Division does
7 not grant you an exception from the notice rule?

8 A. Approximately 155 owners.

9 MR. KELLAHIN: Mr. Examiner, that concludes my
10 examination of Mr. Noah in this case.

11 And we move the introduction of his Exhibit A in
12 Case 11,709.

13 EXAMINER CATANACH: Exhibit A in Case 11,709 will
14 be admitted as evidence.

15 EXAMINATION

16 BY EXAMINER CATANACH:

17 Q. Mr. Noah, the interest owners you sent a copy of
18 the Application?

19 A. Yes, we sent a copy of the Application, as well
20 as the cover sheet, notice of the --

21 Q. Okay. Do we have a copy of the Application?
22 Would that be in the -- The same Application would be in
23 the case file, Tom?

24 MR. KELLAHIN: I need to double-check, Mr.
25 Examiner. It should be identical to the case file

1 Application we would like to submit, and I will do it
2 subsequent to the hearing, a copy of the notice letter,
3 which details to all the interest owners exactly what the
4 hearing is about.

5 EXAMINER CATANACH: Okay.

6 Q. (By Examiner Catanach) Mr. Noah, do you feel
7 like your letter to the interest owners adequately
8 explained what you intended to do with this Application?

9 A. Yes, I do.

10 Q. Did you have any questions from any interest
11 owners?

12 A. We had approximately seven or eight owners in
13 each unit that contacted me with questions, primarily
14 owners that had never been involved in a commingling
15 situation before, had questions about the process and about
16 the allocation methodology.

17 Q. You had no objections from any interest owner?

18 A. No.

19 Q. These are all the interest owners within the
20 entire unit that -- You didn't exclude anybody; is that
21 correct?

22 A. No.

23 Q. Okay. Did you -- In the 30-and-5 unit I don't
24 see -- Did you supply PA maps with this, in this exhibit?

25 A. Yes, there are PA maps.

1 Q. Okay, I can't find them in my exhibit book.

2 A. We certainly have them and can supply them.

3 Tom, I've got an extra set here if you need it.

4 (Off the record)

5 Q. (By Examiner Catanach) Okay. May I ask you the
6 difference, Mr. Noah, between the Dakota participating area
7 and the Dakota "A" participating area?

8 A. Well, I'm not sure that I understand the
9 difference myself, but in approximately the mid-Seventies,
10 the OCD saw fit to declare a separate and distinct
11 participating area due to that well. I believe it's the
12 Schalk 1 E well that's located in Section 12.

13 I believe it was originally proposed as an
14 expansion of the Dakota PA, but for reasons that I'm not
15 clear on myself, the OCD chose to create a new
16 participating area there.

17 Q. Is Phillips the only operator in this unit?

18 A. Yes.

19 Q. So you will operate all these horizons?

20 A. Yes.

21 Q. Okay. Do you have a well count in these exhibit
22 books?

23 A. In the Application itself, there is a well count,
24 on the first page of the Application, for each unit.

25 EXAMINER CATANACH: All right. I have nothing

1 further.

2 MR. KELLAHIN: Mr. Examiner, my next witness is a
3 petroleum engineer. His name is Danny Jaap. He spells his
4 name J-a-a-p.

5 W.D. (DANNY) JAAP,

6 the witness herein, after having been first duly sworn upon
7 his oath, was examined and testified as follows:

8 DIRECT EXAMINATION

9 BY MR. KELLAHIN:

10 Q. Mr. Jaap, would you please state your name and
11 occupation?

12 A. Danny Jaap, I'm the operations support director
13 for our Phillips Farmington office.

14 Q. On prior occasions, sir, have you testified
15 before the Division?

16 A. No, I have not.

17 Q. Give us a summary of your education.

18 A. I received a bachelor of science in petroleum
19 engineering from Texas A&M University in 1977.

20 Q. And summarize your employment experience.

21 A. Since 1977 I've spent my entire career with
22 Phillips, 19 1/2 years, in various reservoir production
23 engineering, production and operations manager positions
24 throughout the continental US and also some overseas
25 assignments.

1 Q. Is the 29 and 5, and the 30 and 5 unit part of
2 your duties as a petroleum engineer?

3 A. Yes, I oversee the technical and operations of
4 those units.

5 Q. And as part of that responsibility, have you made
6 an investigation to determine what would be the appropriate
7 way for further development to occur in both of these
8 units?

9 A. Yes, I have.

10 Q. And what have you ultimately concluded is the
11 best opportunity for that further development?

12 A. On the Mesaverde and Dakota, we've concluded from
13 the cost structure we currently have that we cannot
14 continue development in those units without downhole
15 commingling, and...

16 Q. The two zones that you have concluded are
17 marginal would be the Dakota and the Mesaverde in the unit?

18 A. That is correct.

19 Q. Do you have -- Have you developed yet a fixed
20 plan for 1997 in terms of your commingle opportunities, or
21 is that yet to be determined?

22 A. We have a tentative plan, not a fixed plan, for
23 the 29-5.

24 Q. All right. Describe for us what your tentative
25 plan is for the 29 and 5.

1 A. And it covers more than just 1977. Basically
2 with downhole commingling we have a potential to have 20
3 recompletions from the Dakota to the Mesaverde for the next
4 two to three years, in 29-5.

5 Q. Okay, and how about in the 30 and 5?

6 A. In 30 and 5, it has better potential. We have
7 potential to drill five Mesaverde-Dakota wells in 1997,
8 downhole commingled wells, and recomplete five Dakota wells
9 as Dakota-Mesaverde commingles.

10 Also, an additional -- or overall total of 10
11 Mesaverde-Dakota drill wells in 30 and 5 and a potential to
12 recomplete a total of 15 Dakotas as Mesaverde-Dakota
13 downhole commingle wells over the next two or three years.

14 Q. In the 30 and 5, do you also see the commingled
15 opportunity to be primarily focused on the Mesaverde and
16 the Dakota reservoirs as being marginal?

17 A. Yes, that is correct.

18 Q. We're dealing with the same two reservoirs in
19 both units of your analysis?

20 A. Yes.

21 Q. Let's turn to your exhibit book and let's look
22 behind Exhibit Tab Number 1.

23 A. For 29-5?

24 Q. Yes, sir.

25 A. Okay.

1 Q. You've provided a Mesaverde summary sheet on
2 information?

3 A. That is correct.

4 Q. Show us what you're showing.

5 A. Actually, we have information for 29-5 and 30 and
6 5 on this table for the Mesaverde formations.

7 But concentrating on the 29-5, the key columns
8 are the initial bottomhole shut-in pressures calculated of
9 1234 for the Mesaverde in the 29-5. Also, the middle of
10 the column, the current bottomhole shut-in pressures of 843
11 p.s.i., and that's calculated from our most recent well
12 work and completions in 1995 and 1996 in the Mesaverde
13 interval in 29 and 5.

14 Q. Okay, let's look at the 30 and 5 at this time.

15 A. Okay, 30 and 5, we also have the bottomhole shut-
16 in pressure from the initial conditions prior to
17 development, the 1294. We also have the current conditions
18 based on wells that were drilled and completed in 1995 of
19 1030 p.s.i. bottomhole pressure.

20 Q. As we go through the exhibit book in this portion
21 of the book, we're going to be looking at the Mesaverde
22 formation?

23 A. Yes.

24 Q. And then we're going to shift in Exhibit 2 and
25 look at the Dakota?

1 A. That is correct.

2 Q. All right. Is the information in the Mesaverde
3 section of the book identical with the information
4 contained in the exhibit book for 30-5?

5 A. Not completely. There are slight differences.
6 The methodology is the same for both on all the exhibits
7 here, but final results on -- it's slightly different
8 between 29-5 and 30 and 5. And I'll, as we go through,
9 identify those.

10 Q. For example, obviously, you averaged pressures in
11 each of the units separately, and so that total average is
12 going to be slightly different?

13 A. That is correct.

14 Q. Okay, let's go now to the next display behind
15 this tab and look at what you forecast to be the costs
16 attributable to the Mesaverde reservoir under single, dual
17 or commingle status.

18 A. Okay, and these are just the Mesaverde assigned
19 costs only.

20 From our recent -- We have had a recent Mesaverde
21 program in other units. That's where we utilize to develop
22 the cost for drilling and completing a single Mesaverde
23 completion of about \$375,000 to complete, \$30,000 for
24 surface facilities, total of \$404,000.

25 Dual completion -- and this dual completion is

1 based on a Mesaverde-Dakota dual completion where you have
2 two separate strings of tubing -- \$338,000 for the drilling
3 and completion portion of the Mesaverde, \$30,000 for the
4 facilities, total cost of \$368,000.

5 The total costs for a dual well, including the
6 Dakota, would be about \$805,000.

7 Q. Okay.

8 A. And then the final is the commingled completion,
9 which would be a single string of tubing producing for the
10 Dakota and Mesaverde, significantly lesser costs of
11 \$285,000 total.

12 Q. All right. Then the next display is the
13 operating costs attributable the Mesaverde?

14 A. That is correct. We have two columns, one for
15 the 29-and-5 unit, and one for the 30-and-5 unit. And we
16 have, based on our actual 1996 costs for both units, the
17 cost of operating a single completion. These are costs in
18 thousands of dollars a year. We also have actual costs of
19 dual completions. And then the last row is our estimated
20 cost of commingled completions.

21 Q. For the Mesaverde reservoir in the 29-and-5 unit,
22 did you take production from typical wells within the unit
23 and display that so we can see what its production has been
24 over a period of years?

25 A. That is correct. What we did was -- and it's on

1 Exhibit 1.4 -- is represent a total of four wells of
2 existing production that are in the area of undeveloped
3 that we would be looking at developing.

4 Q. You've coded on the index on the right a way for
5 the Examiner to find those wells when he looks at the area
6 map, and in your opinion those are typical of what you
7 would expect to find in the Mesaverde as you further
8 develop that resource?

9 A. That is correct. Now, on the 29-5 there is a
10 correction on the scale. On the Y axis the units should be
11 millions of cubic feet per year, instead of MCF per day.

12 Q. Okay.

13 A. Also, there are two lines on this, as far as what
14 we use for type curves for projecting what the potential
15 production would be from a development, either through
16 drilling or recompletion.

17 The red line represents our historical Mesaverde
18 production. But in the past year we've since gone in and
19 added a Lewis shale interval, which is part of the
20 Mesaverde reservoir, had good results just by adding the
21 pay add, and that's what the blue line represents, is the
22 addition of the Lewis shale.

23 Most of that is a projected number, because we've
24 just begun doing that in the last few months, in the past
25 year. So we don't have historical production for the Lewis

1 shale, just the initial potential.

2 Q. All right. When we turn to the next display,
3 then, the Examiner can find the location of the four type
4 wells in the Mesaverde that were used in the prior plot?

5 A. That is correct.

6 Q. All right. Let's turn behind that, and you've
7 shown your pricing forecast that was part of your
8 economics?

9 A. That is correct. What we represent here is
10 September NYMEX production of posted prices in the San Juan
11 Basin projected for the next 30 or so years. And it's
12 dollars per million BTU on the Y axis, and just the
13 annual -- years on the X axis.

14 Q. All right. When we put all that together, then,
15 on the next spreadsheet, you've got three curves that
16 you've built for us, and this represents a way for the
17 Division and for you to look at what you've forecast to be
18 the minimum threshold EUR and rate under commingled, single
19 or dual situations?

20 A. That is correct, it represents the ultimate
21 reserves and initial rate required to reach this 20-percent
22 rate of return, which we define as marginal economics.

23 Q. All right. You've put a black dot on the chart.
24 It's about 440 a day, for about, oh, 1.7 BCF?

25 A. That is correct. And that is our projection of

1 Mesaverde development in 29-5, what the average well would
2 result in.

3 Q. Your analysis has concluded that for the
4 Mesaverde in this unit, your opportunity for developing
5 that resource dictates that it be done in a commingle
6 fashion?

7 A. That is correct.

8 Q. All right. Then you've gone through and added
9 supporting data with regards to your economics behind
10 that -- those curves?

11 A. That is correct.

12 Q. Okay. All right, then that completes the
13 presentation on the Mesaverde.

14 Let's take a look at the Dakota situation. If
15 you'll turn to Exhibit Tab 2, again you're showing pressure
16 information?

17 A. That is correct, and this was calculated in a
18 similar fashion. It represents the same type of data as
19 represented in the Mesaverde.

20 Q. And then on the end of the chart you've shown an
21 EUR?

22 A. That is correct, of approximately 1.5 BCF, 29-5
23 and 1.7 BCF in 30 and 5 --

24 Q. And again --

25 A. -- the initial rates.

1 Q. And again, as we move through the Dakota, give us
2 a summary of the Dakota capital expenses.

3 A. Okay. Again, the -- you have the single
4 completion of -- total cost of \$458,000 for Dakota only;
5 dual completion, the Dakota component of a Mesaverde-Dakota
6 well of \$436,000. Again, total well costs there of both
7 zones would be about \$805,000. And the commingled
8 completion, Dakota portion, would be about \$329,000.

9 Q. And the next display is your operating costs?

10 A. That is correct. This is calculated in a similar
11 fashion as was the Mesaverde for the 29-5 and 30-and-5
12 units.

13 Q. Okay, let's look at Exhibit 2.4 where you have
14 summarized the producing history of five Dakota wells, and
15 then behind that display is the unit map showing the
16 location of those five type examples?

17 A. That is correct.

18 Q. Are these going to be characteristic wells in the
19 Dakota, as you foresee further Dakota development to occur?

20 A. Yes, it is, it is representative of the area that
21 we foresee development.

22 Q. What's the meaning of the red line -- curve, on
23 the display?

24 A. The red line is the production forecast that we
25 utilize in running our economics and our projection of what

1 a Dakota development, either through drilling or
2 recompletion, would result in.

3 Q. Is that the average of the data from the five
4 wells, or is that something else?

5 A. It's a -- taking the data from the 5 and then
6 utilizing that to forecast your best shot at what the -- a
7 new development would be.

8 Q. Okay. When you take the cost information and the
9 expected producing rates, you again apply a pricing
10 forecast to it, which is the next display?

11 A. That is correct.

12 Q. And then after that we've put together all that
13 data, and you've given us the three curve sets for a
14 single, dual and a commingle situation?

15 A. That is correct, for drilling those type of
16 completions.

17 Q. All right. When we look at the bottom line for
18 that display, show us where you, in your opinion, believe
19 we will be positioned for Dakota wells in the unit.

20 A. Okay, the projected Dakota well is the black dot,
21 which is beneath the blue downhole commingled. It shows
22 about 1.4 BCF reserves and about 400 MCF per day initial
23 rate.

24 So based on this, we do not project being able to
25 justify drilling Dakota wells. That's why earlier our

1 projection was, we would have recompletions in 29-5.

2 Q. Okay. You would have to have a recompletion
3 target for a commingled reservoir that would help you move
4 this black dot up above the threshold for a commingled --

5 A. That is correct.

6 Q. -- rate of return?

7 Okay. So the Dakota is the most marginal, if you
8 will, of the reservoirs you're seeing in this unit?

9 A. In 29-5, yes.

10 Q. Yes, sir. Is that true of the 30 and 5?

11 A. 30 and 5, I believe the Dakota is more marginal
12 than the Mesaverde. But it does, with drilling, have a
13 20 -- drilling and downhole commingling, it would have a
14 potential of 20-percent rate of return.

15 Q. Just slightly better, but not much?

16 A. That is correct.

17 Q. The rest of the documents behind Exhibit 2 is the
18 supporting information for the curves we just looked at?

19 A. That is correct.

20 Q. Let's look at the allocation formulas. Describe
21 for the Examiner what you're proposing as allocation
22 methods to be utilized in the unit.

23 A. We had two methods identified on Exhibits 3.1 and
24 3.2.

25 The first method is if you were to drill a new

1 well and commingled two zones in that well. We would
2 propose measuring the initial stabilized rate, producing
3 into the sales line for the lower zone. And if you would
4 do that, then you would measure the initial stabilized rate
5 of both zones commingled, also producing into the sales
6 line.

7 Our lower zone allocation would be just the lower
8 zone rate divided by the commingled rate. The upper zone
9 would be the commingled rate less the lower zone rate,
10 which represents the upper zone rate, divided by the
11 commingled rate, with an example calculation shown. And
12 this would be just a fixed allocation method for future
13 allocations.

14 Q. All right. Let's turn the page and look at an
15 optional allocation method.

16 A. The optional is where you would add a new zone to
17 an existing zone and add a production history of an
18 existing zone where you would have a decline basis and
19 could forecast what the existing zone would produce.

20 So we propose using a subtraction method for the
21 first year or so, where we would forecast the production
22 rate for the existing -- based on the existing decline
23 curve, subtract that from the commingled rate, and that
24 subtracted value would be the upper zone rate.

25 And we would propose using that until such time

1 as the new zone would stabilize, and we're projecting that
2 would be plus or minus twelve months.

3 At that point in time, we would propose switching
4 over to a fixed-allocation method based on the existing
5 rates at that time for each zone.

6 Q. Have you reviewed both methods of allocation with
7 the Aztec District Office of the Oil Conservation Division?

8 A. I've had discussions with them, and they are
9 aware of it. I have not specifically reviewed the
10 individual sheets with them.

11 Q. All right. These methods are utilized by both
12 the Aztec office and the Santa Fe office of the Oil
13 Conservation Division?

14 A. To my knowledge, yes.

15 Q. And they're rather standardized allocation
16 formulas?

17 A. Yes.

18 Q. When you fill out the application for commingling
19 approval, you're going to submit the actual data and the
20 supporting documents that are appropriate for that
21 particular wellbore?

22 A. That is correct.

23 Q. All right. Let's turn and have you contrast --
24 (Off the record)

25 Q. (By Mr. Kellahin) Let's have you turn to the

1 exhibit book for the 30-and-5 unit, and starting with
2 Exhibit 1, take us through the -- in a summary fashion, the
3 points of difference between the last unit and the 30-and-5
4 unit so the Examiner is aware of the differences.

5 A. Okay, on Exhibit 1, which is the Mesaverde
6 formation, main difference is, initial pressure is slightly
7 higher in 30 and 5 than in 29-5, 1294 compared to 1234.

8 The current pressure is higher by about 200
9 p.s.i., 1030 versus 843.

10 And then in the 30 and 5, the Mesaverde didn't
11 show the same potential from initial production point of
12 view -- 419 MCF per day, compared to 444 -- but very
13 similar reserves numbers, rounding off 1.7 BCF for both
14 units.

15 The cost information are identical. We didn't
16 see any difference in -- or cost of development between the
17 two units. The operating costs are a little bit lower in
18 30 and 5 than in 29-5.

19 On 30 and 5, I have very -- we used -- on the
20 Exhibit 1.4, this represents again -- the red line
21 represents the Mesaverde type curve from historical
22 production. Added with it the Lewis shale is the blue --
23 The additive is the blue line.

24 It has very similar production characteristics in
25 29-5 and in 30 and 5.

1 Q. Okay. Also, we need to change the Y code on the
2 Y axis.

3 A. No, this one is correct.

4 Q. This is a day rate?

5 A. Yes. The only incorrect labeling was on the
6 29-and-5 Mesaverde curve.

7 Q. Okay.

8 A. And again, we identified the wells that we feel
9 are similar to the production from undeveloped area that we
10 would see if we were to develop it, and that's identified
11 on the Exhibit 1.5.

12 Q. And this summary exhibit that shows the three
13 forecasted rate and EURs for single, dual and commingle
14 situations, you're on the Mesaverde sheet?

15 A. Yes, and it is very similar to the 29 and 5. The
16 actual Mesaverde downhole commingled is about 21 percent
17 rate of return, which is represented by the black dot on 30
18 and 5.

19 And it was slightly better in 29-5, approximately
20 25-percent rate of return for the downhole commingle case.

21 Q. Okay.

22 A. And the rest of the exhibits are backup data,
23 similar to 29-5, for 30 and 5.

24 Q. All right. Move to the Dakota discussion for me
25 in the 30-and-5 unit.

1 A. Okay. On the first exhibit, 2.1, again the main
2 difference is in the pressure. 30 and 5 had an initially
3 higher bottomhole pressure, 3412, compared to 2981 in the
4 29-5, and the current is significantly higher, 2850,
5 compared to 1224.

6 Had a little bit higher initial rate of 438
7 versus 403 for 29-5, and slightly higher reserves, 1.7 BCF,
8 compared to 1.5 for 29-5.

9 The Dakota cost information, again, is identical
10 to the Dakota for 29-5. And the operating costs for 30 and
11 5 are slightly different than 29 and 5, but similar in
12 nature.

13 And Exhibit 2.4 shows our estimate of what -- The
14 red line shows our estimate of what a 30-and-5 Dakota
15 development well, either through drilling or recompletion,
16 would result in, in production forecasts, again as compared
17 to similar-type wells that are in the same area as future
18 development.

19 And the main difference, when you look at Exhibit
20 2.7, which is the economic curves for the various
21 completion scenarios, is that the Dakota here is almost
22 economic. It's -- I think it shows a 17.6-percent rate of
23 return, slightly below the 20 percent.

24 Q. It's almost economic as a commingled zone?

25 A. That is correct.

1 Q. All right.

2 A. Again, we just have the additional backup data
3 for the economics. And the production allocation
4 methodology is identical to what we had submitted for 29-5.

5 Q. Summarize for us your engineering conclusions,
6 then, about the 29-and-5 unit and the 30-and-5 unit, so far
7 as future development is concerned on a commingled basis.

8 A. From the projections of production and cost, we
9 do not foresee that we can have future development, either
10 through drilling in the Dakota or Mesaverde, without
11 downhole commingling.

12 Even with downhole commingling in 29-5, we don't
13 foresee that we can afford to drill there. Those would be
14 recompletions to upper zones, mainly the Mesaverde.

15 MR. KELLAHIN: That concludes my examination of
16 Mr. Jaap.

17 We move introduction of his Exhibits 1 through 3
18 in Case 11,708 and 11,709.

19 EXAMINER CATANACH: Exhibits 1 through 3 in
20 11,708 and 11,709 will be admitted as evidence.

21 EXAMINATION

22 BY EXAMINER CATANACH:

23 Q. Mr. Jaap, the potential -- I wanted to go over
24 with you again, on the 29-5 unit, I believe you testified
25 that you had possibly 20 recompletions from the Dakota to

1 the Mesaverde?

2 A. That is correct.

3 Q. Okay. Is there any potential for new drills in
4 that unit?

5 A. Not into the Dakota. We don't project it as we
6 show -- the economics show. Even with downhole
7 commingling, Dakota and Mesaverde downhole commingling, the
8 Dakota is still uneconomic in 29-5.

9 Q. I'm sorry, could you repeat that?

10 A. Our economics show that even with downhole
11 commingling, in 29-5 drilling is uneconomic into the
12 Dakota.

13 Q. Okay. So you don't anticipate drilling any new
14 wells to the Dakota?

15 A. In 29-5, that is correct.

16 Q. Okay. In the 30 and 5 unit?

17 A. In 30 and 5, our projection is that it would be
18 economic to drill ten Mesaverde-Dakota downhole commingled
19 wells, with also economics to recomplete 15 Dakota wells as
20 Mesaverde-Dakota downhole commingled.

21 Q. I'm sorry, recomplete 15 what?

22 A. Existing Dakota wells as Mesaverde-Dakota
23 downhole commingled wells, adding the Mesaverde to those 15
24 Dakota wells.

25 Q. Okay, that's the potential for that unit?

1 A. Correct.

2 Q. Okay. You didn't discuss the Pictured Cliffs or
3 the Fruitland Coal. What's the potential in those zones?

4 A. Those are currently economic. We don't foresee a
5 lot of development potential in the PC. We did not
6 classify those as marginal for development.

7 There is a potential that the Mesaverde -- an
8 existing Mesaverde might be recompleted with the Fruitland
9 Coal at a later date.

10 Q. Okay, so as far as your applications go, you're
11 just mainly focusing on the Dakota and Mesaverde, and
12 you're not so concerned about accepting the criteria for
13 the PC and the Fruitland Coal?

14 A. That is correct. Our intent is to identify that
15 the Mesaverde and Dakota are marginal for development in
16 these two units.

17 Q. Does your -- your Application summarizes the well
18 count in each of these units?

19 A. Yes, it's in the Application. I think, as Mr.
20 Noah stated, it was in either the first or second page of
21 the Applications, the total well count for each of the
22 zones in each unit.

23 Q. Okay. So you used the data from the existing
24 wells within each of the units to -- you averaged that data
25 to come up with the pressures and the initial producing

1 rates and the EURs?

2 A. That is correct.

3 Q. Okay. Do you anticipate any recompletions or new
4 drills varying a lot from what you've got here as the
5 average?

6 A. No, that's -- What we tried to represent are the
7 wells that are currently producing in the -- near the
8 undeveloped acreage, so we foresee that that would come in
9 very similar to what we represent, and not varying
10 drastically.

11 Q. What is a commingled -- a new drilled commingled
12 completion going to run, about, Mr. Jaap?

13 A. The total cost, assuming we were to drill and
14 commingle the Mesaverde and Dakota, would be, drilling and
15 complete, \$583,000 total for both zones. The facilities
16 cost would total \$30,000 for both zones, with a total of
17 \$613,000.

18 Q. Compared with -- I believe you testified eight
19 hundred and something for a dual?

20 A. The dual total for Mesaverde-Dakota, drilling and
21 complete facilities, is \$805,000.

22 Q. Okay. Do you have at this point any dual
23 completions within these units?

24 A. Yes, we do, and the operating costs for those are
25 represented on Exhibit 1.3.

1 In 1995 we drilled some dual wells in Mesaverde-
2 Dakota, dual wells with separate strings, and if we had to
3 do it over again we wouldn't do it.

4 Q. Okay. Is Phillips planning on changing that
5 configuration in those dual completions?

6 A. I haven't looked at the individual economics,
7 current economics for each of those wells. I would foresee
8 in the future that we probably would, to get the benefit of
9 incremental lift by combining the two zones, and also
10 reducing operating costs by only having to visit -- or
11 maintain one set of surface facilities.

12 Q. Do you know how many wells that might be, that
13 you want to --

14 A. It's a minimum number. I don't have the exact
15 count. I think it's between maybe two and four.

16 Q. Okay. If I understand your graph that shows the
17 Mesaverde production, that's what you -- that's just what
18 you're anticipating for an initial -- or a recompletion in
19 the Mesaverde to produce?

20 A. That is correct, a new completion, either through
21 drilling or a recompletion in the Mesaverde.

22 Q. And that's about how the well would decline over
23 time?

24 A. Yes, sir.

25 Q. Okay. And all your economics is based on this

1 gas-price forecast you've got here?

2 A. That is correct.

3 Q. Now, the graph where you've got the three -- the
4 dual, commingle and single wellbores, that represents a new
5 drilled well?

6 A. Yes, that represents all the -- the costs, the
7 initial rates, the reserves and the production forecasts in
8 the previous exhibits leading up to this exhibit for a
9 single well, a dual well and a commingled well, for the
10 Mesaverde portion of the costs and production.

11 Q. Now, you don't have one of these graphs that
12 shows a recompletion comparison, do you?

13 A. No.

14 Q. Okay.

15 A. The reason being is, we could not recomplete
16 without downhole commingling.

17 Q. You couldn't recomplete without downhole
18 commingling? You couldn't recomplete as a dual completion?

19 A. No, because the hole size isn't big enough for
20 two strings of tubing. If you drilled it as a single, then
21 it would be very difficult to go in and add a dual
22 completion to it.

23 Q. So that's -- you can't do that -- You're
24 physically limited by the casing size, not necessarily by
25 the economics?

1 A. I haven't run the economics, but we do have a
2 physical limitation on the casing size.

3 Q. Are the pressures in the Dakota and Mesaverde
4 similar enough that you don't see any problem with
5 commingling these formations?

6 A. In the 29-5, the current pressure of the Dakota
7 is low enough to meet the pressure requirements of the
8 downhole commingling of the OCD.

9 In 30 and 5, the current pressure is higher than
10 the initial reservoir pressure of the Mesaverde, so we
11 would not commingle those until such time as the Dakota was
12 depleted.

13 From recent Dakota wells, you actually went from
14 this current-type pressure of 2850 down to a pressure of
15 about 1100 p.s.i. in less than six months. It depletes --
16 It's very tight and depletes in a very quick fashion.

17 So we would not propose commingling the Dakota as
18 long as it had a pressure higher than the initial pressure
19 of the Mesaverde.

20 Q. When do you anticipate that might be?

21 A. Based on what we've seen from the previous wells,
22 that could be as soon as four to six months after initial
23 completion, based on what we saw in recent wells.

24 Q. Do you get that much of a pressure drop that
25 quick?

1 A. Yes, it's very tight, and then you deplete the
2 wellbore and take quite a bit of time to build back up to a
3 significant pressure.

4 Q. On your new drills, you wouldn't propose to test
5 each individual zone separately?

6 A. No, we feel we can get the same information by
7 doing it in this fashion.

8 Q. How long do you anticipate testing the lower
9 zone?

10 A. From what we've seen, in order to get a good
11 stabilized production rate, I would say two to four weeks.

12 EXAMINER CATANACH: I have nothing further, Mr.
13 Kellahin.

14 MR. KELLAHIN: Thank you, Mr. Examiner.

15 EXAMINER CATANACH: Anything further?

16 MR. KELLAHIN: There's a glitch on the docket;
17 we've got the wrong county for these two cases. So --

18 EXAMINER CATANACH: Good point.

19 MR. KELLAHIN: -- the past practice, I think, has
20 been to continue and readvertise. If you think that's
21 necessary, the right county is Rio Arriba for both cases.

22 EXAMINER CATANACH: I'll defer that question to
23 my counsel here.

24 (Off the record)

25 EXAMINER CATANACH: All right, we'll go ahead and

1 readvertise for the February 20th, continue and
2 readvertise.

3 Okay, there being nothing further, these cases
4 will be continued and readvertised for the February 20th
5 docket.

6 (Thereupon, these proceedings were concluded at
7 10:21 a.m.)

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21 I do hereby certify that the foregoing is
22 a complete record of the proceedings in
the Examiner hearing of Case No. _____,
heard by me on _____ 19____.

23 _____, Examiner
24 Oil Conservation Division
25


CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL January 26th, 1997.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998