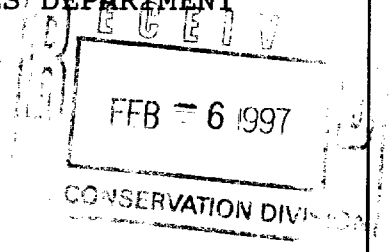
STATE OF NEW MEXICO

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)

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.

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I N D E X

January 23rd, 1997
Examiner Hearing
CASE NOS. 11,708 and 11,709 (Consolidated)

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E X H I B I T S

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Applicant's (11,709)	Identified	Admitted
Exhibit A	10	12
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* * *

A P P E A R A N C E S

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* * *

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

EXAMINER CATANACH: At this time I'll call Case 11,708, the 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.

Call for appearances.

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

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

EXAMINER CATANACH: At this time we'll call Case 11,709, which is the 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.

Additional appearances in either of these cases?

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

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

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

A. Yes, I have.

Q. And that's true of both units?

A. Yes.

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

EXAMINER CATANACH: He is so qualified.

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

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

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

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

A. Yes.

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

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

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

A. Yes, I have.

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

A. That's correct.

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

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

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

A. Yes.

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

A. Yes.

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

A. Yes, it did.

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

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

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

A. Those are offsetting operators that were notified.

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

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

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

cards by which all those notifications were sent?

A. Yes.

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

A. No, I have not.

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

A. No, I don't.

Q. Hasn't been yet determined?

A. It has not yet been determined.

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

A. Approximately 190 owners.

Q. A hundred and ninety?

A. One hundred and ninety owners are required --

Q. Okay.

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

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

A. Yes, it sure would.

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

We move the introduction of his exhibits behind Exhibit A.

EXAMINER CATANACH: Exhibit A will be admitted as evidence.

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

A. All right.

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

A. Yes, that's correct.

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

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

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

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

Q. All right. And then the first participating area

display?

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

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

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

A. Yes.

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

A. Yes, I did.

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

A. Yes.

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

A. No, I did not.

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

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

A. That's correct.

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

A. Approximately 155 owners.

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

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

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

EXAMINATION

BY EXAMINER CATANACH:

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

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

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

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

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

EXAMINER CATANACH: Okay.

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

A. Yes, I do.

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

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

Q. You had no objections from any interest owner?

A. No.

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

A. No.

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

A. Yes, there are PA maps.

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

A. We certainly have them and can supply them.

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

(Off the record)

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

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

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

Q. Is Phillips the only operator in this unit?

A. Yes.

Q. So you will operate all these horizons?

A. Yes.

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

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

EXAMINER CATANACH: All right. I have nothing

further.

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

W.D. (DANNY) JAAP,

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. Jaap, would you please state your name and occupation?

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

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

A. No, I have not.

Q. Give us a summary of your education.

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

Q. And summarize your employment experience.

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

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

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

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

A. Yes, I have.

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

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

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

A. That is correct.

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

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

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

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

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

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

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

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

A. Yes, that is correct.

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

A. Yes.

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

A. For 29-5?

Q. Yes, sir.

A. Okay.

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

A. That is correct.

Q. Show us what you're showing.

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

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

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

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

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

A. Yes.

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

A. That is correct.

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

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

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

A. That is correct.

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

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

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

Dual completion -- and this dual completion is

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

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

Q. Okay.

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

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

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

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

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

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

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

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

Q. Okay.

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

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

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

shale, just the initial potential.

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

A. That is correct.

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

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

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

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

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

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

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

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

A. That is correct.

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

A. That is correct.

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

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

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

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

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

Q. And again --

A. -- the initial rates.

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

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

Q. And the next display is your operating costs?

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

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

A. That is correct.

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

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

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

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

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

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

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

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

A. That is correct.

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

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

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

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

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

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

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

A. That is correct.

Q. -- rate of return?

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

A. In 29-5, yes.

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

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

Q. Just slightly better, but not much?

A. That is correct.

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

A. That is correct.

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

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

The first method is if you were to drill a new

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

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

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

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

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

And we would propose using that until such time

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

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

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

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

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

A. To my knowledge, yes.

Q. And they're rather standardized allocation formulas?

A. Yes.

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

A. That is correct.

Q. All right. Let's turn and have you contrast --

(Off the record)

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

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

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

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

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

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

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

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

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

A. No, this one is correct.

Q. This is a day rate?

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

Q. Okay.

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

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

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

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

Q. Okay.

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

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

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

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

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

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

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

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

A. That is correct.

Q. All right.

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

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

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

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

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

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

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

EXAMINATION

BY EXAMINER CATANACH:

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

the Mesaverde?

A. That is correct.

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

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

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

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

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

A. In 29-5, that is correct.

Q. Okay. In the 30 and 5 unit?

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

Q. I'm sorry, recomplete 15 what?

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

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

A. Correct.

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

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

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

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

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

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

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

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

rates and the EURs?

A. That is correct.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

A. Yes, sir.

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

gas-price forecast you've got here?

A. That is correct.

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

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

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

A. No.

Q. Okay.

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

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

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

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

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

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

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

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

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

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

Q. When do you anticipate that might be?

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

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

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

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

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

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

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

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

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINER CATANACH: Anything further?

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

EXAMINER CATANACH: Good point.

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

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

(Off the record)

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

readvertise for the February 20th, continue and readvertise.

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

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

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11708 11709 heard by me on January 23 1997.

David R. Catanach, Examiner
Oil Conservation Division

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

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