NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10418

IN THE MATTER OF:

The Application of Amoco Production Company for an exception to Rule 303-A and 309-A, surface commingling of condensate, Rio Arriba County, New Mexico.

BEFORE:

DAVID R. CATANACH

Hearing Examiner

State Land Office Building

December 5, 1991

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

ORIGINAL

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EXAMINER CATANACH: At this time we'll call Case 10418.

MR. STOVALL: Application of Amoco Production Company for an exception to Rule 303-A and 309-A, surface comingling of condensate, Rio Arriba County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm of Campbell, Carr, Berge & Sheridan. I represent Amoco Production Company.

I'm appearing in association with Mr. Eric Nitcher, attorney for Amoco from Denver, who will present the case.

EXAMINER CATANACH: Any other appearances?

The witness will, please, stand and be sworn in.

MR. NITCHER: We have two witnesses today.

EXAMINER CATANACH: Two witnesses, okay.

(The witnesses were duly sworn.)

MR. NITCHER: Thank you. Today Amoco

Production Company has an application for the Commission to surface commingle condensate only from certain wells in the San Juan 28-7 unit, Rio Arriba County, New Mexico, as an exception to Rule 303-A and 309-A.

Amoco is not requesting authority to commingle gas production. They will be disposed of as previously.

Amoco does have an amendment to the application in accordance with the BLM's request. This amendment, as will be discussed by Mr. Hawkins, is basically to increase the reliability of the measurement that Amoco is proposing, and we have verbal approval from the BLM that this measurement procedure be approved.

I do have an exhibit packet. I have two witnesses. I'd like to start with the land witness today.

EXAMINER CATANACH: Okay.

BARBARA STURGEON

Having been duly sworn upon her oath, was examined and testified as follows:

EXAMINATION

BY MR. NITCHER:

Q. Would you, please, state your name and

business address for the record, please.

A. Barbara Sturgeon, Post Office Box 800, Denver, Colorado 80201.

Q. By whom are you employed and in what capacity?

A. Amoco Production Company as a land negotiator.

Q. Have you previously testified before this Commission before?

A. No, I have not.

Q. Would you give the Commission a brief description of your educational background or work experience.

A. I have a degree in business management from the University of Wyoming. I graduated in 1974. I've worked for Amoco for seventeen-and-a-half years. The last ten-and-a-half years, I've been a land negotiator. I've worked the San Juan Basin for the last two years.

MR. NITCHER: I would ask that Ms. Sturgeon's credentials be accepted to testify as to land matters.

EXAMINER CATANACH: She is so qualified.

Q. (BY MR. NITCHER) Okay. Ms. Sturgeon, have you prepared any exhibits in preparation for today's testimony?

A. I prepared Exhibit 1.

Q. Could you briefly the importance of this exhibit to the Commission.

A. Yes. First of all, it's the outline. That's a federal unit. It's supervised by the BLM, has approximately 31,000 acres in it. The breakdown of the acreage makeup is 94 percent federal, 4 percent state, and 2 percent fee. It's operated by Amoco. Tenneco was the previous operator, but we took over from them when we purchased Tenneco.

The outline of the unit is shown in the heavy red line. It's shown four times because there are four PA's in this unit: the Dakota, the Mesaverde, the Pictured Cliffs, and the Chacra.

The boundaries of the PA are shown in the colored highlighting. For example, in the upper left-hand corner, you'll see in light orange the Dakota PA, and then it's labeled below that.

The reason for showing you these PA's

is to demonstrate that the ownership is different because the boundaries are different. You're covering different leases and different owners. And, for instance, Amoco owns 15 percent in the Chacra, 20 percent in the Pictured Cliffs, 24 percent in the Mesaverde, and 23 percent in the Dakota.

As Mr. Nitcher alluded to, we have spoken to the BLM, and we have their general approval for the way we want to approach this. They want us to submit each well or pair of wells individually so that they can give individual approval. So we don't have written approval for it, but we do have their general agreement and their verbal agreement in how we're approaching this.

In addition to having spoken to the BLM, we notified the other 195 owners in this unit by certified mail with return receipt requested. We have the returned green cards. We have 183 of these. We have two letters that were returned with bad addresses, and there were ten letters that we have not received the cards back on yet. The letter was dated November 7.

Q. You stated that Amoco has talked to the

Commission. Will Mr. Hawkins be discussing that further in detail in his testimony?

A. Yes.

MR. NITCHER: I would ask that Exhibits 1 and also, if the Commission would like, the certified letter certificates be admitted into the record.

EXAMINER CATANACH: Do you have any questions?

MR. STOVALL: Mr. Nitcher, did you hear my discussion with Mr. Roberts regarding the affidavit?

MR. NITCHER: Yes, I did, and I will comply.

MR. STOVALL: You may be able to find some way to bind those in a way that doesn't thicken the file greatly.

MR. NITCHER: If the Commission would like, we would just submit the application and not submit the actual certified receipts, however the Commission would like.

MR. STOVALL: Do you have those in a database of some sort where they've got the numbers on them?

THE WITNESS: It was our division order

database that had the addresses and the peoples' names.

MR. STOVALL: You don't have the return receipt cards on those or anything like that, the numbers? I know some companies do that when they send mailings out.

THE WITNESS: You mean, the numbers of these? Yeah, I'm sure we have those.

MR. NITCHER: Would you like those included?

MR. STOVALL: That might be satisfactory.

EXAMINER CATANACH: I think so.

MR. STOVALL: Submit the list of people to whom it was sent and the certification number attached to your affidavit as a mailing.

MR. NITCHER: I will send that to your attention.

EXAMINER CATANACH: Okay.

MR. NITCHER: If there are no questions of Ms. Sturgeon, I would call Mr. Hawkins.

MR. STOVALL: We haven't actually admitted those. I interrupted you before we did.

EXAMINER CATANACH: Exhibit 1 will be admitted as evidence and the certified mailing

receipts.

MR. STOVALL: I do have a question just more out of curiosity than anything else. Particularly looking at the Dakota participating area, Pictured Cliffs a little, but do you know why the islands exist in there that are uncommitted to the participating areas?

THE WITNESS: I don't specifically know the history of the unit. It was formed in 1952, and it was a Tenneco property, and I didn't go through the history of how the PA's had formed this way.

MR. STOVALL: Okay. That's all I have.

EXAMINER CATANACH: The witness may be excused.

THE WITNESS: Thank you.

MR. NITCHER: At this time I would like to call Mr. Bill Hawkins.

J. W. HAWKINS

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. NITCHER:

Q. Mr. Hawkins, would you, please, state

your name and business address for the record, please.

A. Bill Hawkins, P.O. Box 800, Denver Colorado 80201.

Q. Have you previously testified before this Commission as an expert in reservoir engineering and your credentials been accepted?

A. Yes, I have and they have.

MR. NITCHER: I would move for Mr. Hawkins' admission as an expert in petroleum engineering.

EXAMINER CATANACH: He is so qualified.

Q. Mr. Hawkins, have you prepared any exhibits, in addition to the exhibits prepared by Ms. Sturgeon, for today's testimony?

A. Yes, I have. I have prepared four exhibits or had them prepared under my direction.

Q. Would you, please, go through these exhibits one at a time and explain the importance as to each exhibit to today's testimony.

A. Yes. If you would turn to Exhibit 2, Exhibit 2 is actually three pages, but what I want to do is -- there's a lot of information here, but I'd like to focus on the first line and just kind of let you see what we've got.

We've listed each of the wells that we've identified for potential commingling of condensate at this point in time. Although our application is basically a blanket application for these wells and any future wells, these are the ones that we would like to go ahead and commingle as soon as possible.

If we just look at the first line of data, it identifies the well as the San Juan 28-7-1 well as the Mesaverde formation. And the line immediately below that shows the same well for the Pictured Cliffs formation. This is a dual well. Shows the location, the gas production through May 22 of this year.

And I think of importance is the next column showing the average daily gas rate. The Mesaverde produced about 99 Mcfd, and the Pictured Cliffs averaged 64 Mcfd. These wells are not extremely prolific, but these are reasonably representative. They range anywhere from about 600 Mcfd down to 10 or 20, just right above the economic limit.

We also show in the next column cumulative gas production. And then we start looking at the condensate figures, which are

annual condensate through the same time period, the average daily rate, and the cumulative condensate.

And, again, I draw your attention to the next-to-the-last column showing the condensate production. The Mesaverde shows about five barrels of condensate per day, and the Pictured Cliffs shows zero. We actually believe these Pictured Cliffs wells would produce a nominal amount of condensate if it were being collected.

Right now most of these wells are so dry that the condensate is either produced with the gas stream into the pipeline or as a carryover into the liquid stream if the well makes any water.

What we're proposing to do is to put a separator, if there's not one already in place, and start collecting that condensate. We would expect that the PC wells will make about .1 barrels a day, rough estimate.

For the -- I guess we can go ahead to Exhibit No. 3. We have to skip three pages down. Exhibit 3 is a little simple economic analysis of why we want to commingle as opposed

to install a tank to capture those liquids.

The cost of a new tank is estimated to be about $7500. Although that sounds pretty high, that would include the transportation and installation and labor costs to actually have the thing all installed and hooked up.

If you look at the forecasted production revenue of about .1 barrels of condensate per day, estimated cost of $20 a barrel, and a fairly significant high royalty position in the Pictured Cliffs, we would expect that a single well might generate $560 per year on a before-tax basis.

And a simple before-tax payout calculation would show it would take 13 years to recover the cost of installing that tank. So I think from a prudent economic standpoint we would like to produce this condensate into an existing tank as opposed to purchasing a new tank just for the Pictured Cliffs condensate.

I'd like to move to the next exhibit. Exhibit 4 shows a schematic of how the typical well is connected up in the field and our proposed commingling procedure, I guess.

If you start in the bottom left corner

of this schematic, you'll see a wellhead with two red lines leading out. That would be the full well stream production from a dual well. The upper red line goes to a Mesaverde separator. The lower red line goes to the Pictured Cliffs separator.

If we look at the Mesaverde separator, we see that the gas continues to go straight up into an individual meter for the Mesaverde, and that would not be changed. The green line and the blue line represent separate streams from the separator to a condensate tank and to a water tank.

If we look at the Pictured Cliffs separator -- and I'm assuming that typically we would either have one out there or we will install one -- the gas goes from that separator to its individual meter into sales.

The liquids typically are either going to an earthen pit, primarily water, with some carryover of condensate. And we would propose to lay a line that would -- from the separator that would tie into both the condensate and the water streams and collect that in tanks.

So that's the basic schematic of how we

would hook up these wells for surface commingling of the condensate. Again, I would point out that the gas would continue to be individually metered.

I'd like to go to Exhibit No. 5. Exhibit No. 5 is an example of our allocation scheme. As we've talked about earlier, we've met with the BLM to discuss this proposal for surface commingling. And we discussed several methods of allocation: how we would measure; how often it would need to be measured; and how would we allocate production back to the individual wells.

We have received a verbal agreement, I guess, from the BLM with the method that we're going -- that we're showing you here today. This is going to be a little more burdensome than the method that we had proposed in our application. But we agree with the BLM that this will probably be a more accurate method, and therefore we're willing to go through the additional burden.

If I can lead you through this example, what we've done is I've just listed at the top Well 1 and Well 2. That could either be two separate wells that are close together or two

separate tubing strings from a dual well, one a Mesaverde and one a Pictured Cliffs well.

Our method would have us test on an annual basis each well to get a GOR that would be representative of that well's production. It would have to be a test of sufficient length to get a measurable volume of condensate. This would probably be anywhere from a 24- to 72-hour test depending on what the well can produce.

We also show in the next column, let's assume that the monthly gas production from the Mesaverde was about 9.7 million cubic feet of gas, and from the Pictured Cliffs, about 5.9 million cubic feet of gas, and that the condensate production from those two wells collected in the single tank would be 37 barrels.

The method of allocation is shown below in three steps. First would be to calculate a theoretical condensate production, which would use the monthly gas production, divided by the annual GOR test. We show that for both the first well and second well.

The Mesaverde well calculates to 36 barrels theoretically, and the Pictured Cliffs

well calculates to 3.2 barrels theoretically. The total of that would be 39.2 barrels.

Next we would under step 2 determine the allocation factor for each well. The Mesaverde would have produced 36 out of the 39.2 barrels, or .918 factor. Well 2, Pictured Cliffs well, would have produced 3.2 barrels out of 39.2 barrels, or a .082 factor. You note that those two numbers have to add to 1.0, 100 percent of the allocation.

And then in step 3 we use those allocation factors to allocate the actual 37 barrels that was found in the tank back to each of the individual wells. Well 1 would get 37 barrels times its factor of .918, or 34 barrels of condensate allocated to it. And Well 2, Pictured Cliffs, would get 37 times .082, or 3 barrels allocated to it.

We feel like this is a reasonably accurate method that will protect the correlative rights of all of the owners, working interests, royalty, and overriding royalty interest owners.

We know that the BLM is very concerned about the accuracy of the method that we would use out here, and they are in agreement with this

method. So we are recommending that it be approved by the state as well.

Q. Mr. Hawkins, have you been contacted by any other state agency concerning this application?

A. Yes, I have. Let me look at my notes here real quickly. I have a letter from the State of New Mexico Office of the Commissioner of Public Lands dated November 19. The letter is advising us that we also have to get approval from the State of New Mexico Public Land Commission for any wells that are on state lands.

Now, there are two sections in this unit that are state lands. That would be Section 2 in Township 27 North, Range 7 West and Section 16 in Township 27 North, Range 7 West.

I discussed our application with Pete Martinez at the Public Land Commission and explained to him that even though we were commingling some wells that are not on state lands, the state would still be receiving a royalty due to the ownership in the PA.

My understanding from him is that we would only need to file an application for a well

on state lands. So I agreed with him that we would send them information on the wells that are on state lands as well as the exhibits that we show at this hearing in response to their request for an application and file a $30 filing fee with them.

Q. Okay. The formula, as set out on your Exhibit 5, is that applying to all four PA's that are included in your application?

A. Yes, it is.

Q. Okay. And in your expert opinion will the formula, as set out on Exhibit 5 here, protect the correlative rights of all the interest owners in all four of the participating areas?

A. Yes, it will.

Q. Will the granting of the application prevent waste?

A. Yes, it will.

MR. NITCHER: I would request that Exhibits, what, 2 through 5 be admitted into the record.

EXAMINER CATANACH: Exhibits 2 through 5 will be admitted into the record.

MR. STOVALL: Let me ask you a

question, Mr. Nitcher, while Mr. Catanach is looking at the exhibits. Did you give the State Land Commissioner notice of this hearing?

MR. NITCHER: Yes, we did.

MR. STOVALL: Did either you or Mr. Hawkins talk to Pete Martinez about coming up here to participate or at least observe the hearing?

THE WITNESS: I explained to him that we were going to go to hearing, and I asked him did we need to file an application with him prior to this hearing. He indicated that no, we did not, just prior to the actual implementation of commingling we needed their approval.

From my discussion with him, clarified some of the questions he had of what we were trying to do. And the indication I got from him was that he would be in agreement with it since most of this condensate at this point in time is not being collected and that this would offer a method that would be economical and would collect condensate and prevent waste.

MR. STOVALL: Mr. Hawkins, are you familiar enough with the unit agreements to explain the participation within the various PA's

and how that's done, or should we get Ms. Sturgeon back up again?

THE WITNESS: We probably should get Ms. Sturgeon back again.

MR. STOVALL: Okay. I want to do that in a minute then just for discussion.

Okay. One more question while I'm at it.

EXAMINATION

BY MR. STOVALL:

Q. You've shown an example of a dual-completed Mesaverde PC well. Is that the most common situation out there?

A. That is the most common. Of the 32 duals or pairs of wells that we have, we have 28 wells that are duals and 4 wells that are located on sites close enough together that they could share the tank.

And those would be the typical type of situation we'd see. In fact, it may be all that we see, but we wanted to go ahead and get blanket approval. In the event that we make another dual completion sometime in the future, we wouldn't have to go back through the 197 people -- you know, notice requirement for hearing again.

We would still have to go on an individual basis back to the BLM on any new well that we decide to do. And I guess if that well were on public lands, we would have to file an application with the Commission of Public Lands.

Q. The various duals come in a variety of combinations of the different formations; is that correct?

A. The majority of them are Mesaverde PC. If you look at our list, I think we have one Chacra well which is the San Juan 28 and 7, No. 169. It's on the second page of Exhibit 2 down at the bottom. It's dualed with the PC.

And we have two Dakota wells, one is the -- it's just right above that. It's noted under formation DK. It's San Juan 28 and 7, No. 154. That well would be dualed with well No. 116 -- or excuse me, commingled with well No. 116. And well No. 116 is a PC well that's on the same surface location, or nearby surface location.

The other Dakota well is a -- it's on the third page, San Juan 28 and 7, No. 187. And it would be dualed -- or excuse me, commingled with the San Juan 28 and 7, No. 264, which is a

Pictured Cliffs well. And those again are both on the same or nearby surface locations.

I guess I do see one other Dakota one, and that's about the middle of the page, second page of Exhibit 2. It's the San Juan 28 and 7 No. 109. There's a Mesaverde Dakota dual.

Q. But you'd want the authority to go beyond this list of wells; is that correct?

A. That's correct. If we were to dually complete a well in the future, we would want the authority to put a single tank out there to collect the condensate from both of those wells and use this method to allocate production back to the individual well.

MR. STOVALL: I don't think I have any other questions for this witness.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Hawkins, the San Juan 28-7 No. 60, is that going to be commingled with another well?

A. Yes. We show that one would be commingled with the San Juan 28 and 7 No. 146. I realize this list was kind of put together -- should have been paired up. Would have been simpler for you to see. But that well -- let's

see, No. 146.

MR. STOVALL: About fifth from the bottom on the second page.

A. Right. It is at the same or nearby surface location. You can see it's in quadrant B of Section 19, Township 28 and 7. And that's the same as the No. 60 well. Location B is the 40 acres that it would be in.

MR. STOVALL: Unit letter B?

A. Right, Unit letter B. That's what I'm looking for.

Q. (BY EXAMINER CATANACH) Can I get you to provide us a list of, other than the dual-completed wells, the actual two wellbores that are going to be commingled?

A. Yes, I will do that.

Q. Okay. Has the Pictured Cliffs traditionally not -- the condensate not been recovered from these wells at all?

A. In some cases I think it is recovered, and I think it has to do with whether or not that well has a more than nominal amount of condensate produced.

In most of the cases that we've looked at here -- again, we've kind of taken over

operations from Tenneco and just continued with that. There is a separator on location if the well makes a fair amount of water. And that water has to be separated from the gas stream and whatever condensate is produced is probably carried over with that water.

If the well does not make any significant volume of water and there's no separator there at all, then the well flows full well stream through the gas meter. It's dry enough that it doesn't cause a significant problem, but it does probably collect in the transporter's line and have to be cleared out at some point.

We don't expect that these are going to be very significant volumes of condensate. We're estimating that they will be on the order of .1 barrels a day, which is about 3 barrels a month.

Q. Per well?

A. Per well, that's correct.

Q. And how many wells are we talking about?

A. Well, it would be about 30 --

Q. Initially?

A. -- of the PC wells, that's correct.

MR. STOVALL: Do I understand correctly that most of the locations where you're planning to commingle there's already a tank and condensate --

THE WITNESS: That's correct.

MR. STOVALL: -- collection system for the non-PC well?

THE WITNESS: That's correct.

EXAMINER CATANACH: You're saying it's uneconomic to install another tank on those locations for just the PC condensate?

THE WITNESS: That's correct.

MR. STOVALL: But you are going to install a separator on the PC wells that don't currently have a separator?

THE WITNESS: That is correct.

EXAMINER CATANACH: This allocation will be done on a monthly basis?

THE WITNESS: That's right.

MR. STOVALL: Based on the annual GOR test, the real mechanical thing, the step process, is all going to be done on a computer, I assume, that you could plug the GOR in and it will do some sort of --

THE WITNESS: This is a little

burdensome. That's why the method that we had originally proposed would have been handled a little bit simpler through our accounting and production revenue systems.

This is going to take some manual input. It is going to take some additional overhead to do it monthly in our office, but we will be able to accommodate it. We are looking at ways to try to automate this and get a little better -- maybe go to electronic custody transfer or something that can remove some of the additional overhead burden.

But we feel like that even with the overhead burden, this would be better than purchasing the new tanks.

EXAMINER CATANACH: How's the volume in the tanks determined monthly?

THE WITNESS: My understanding is that they have to gauge that tank every month to determine what additional stock was built up, even if they don't sell anything out of the tank.

So there is a production calculation made every month for each of those tanks. And I think it's just done by strapping the tank.

EXAMINER CATANACH: I believe that's all we have of Bill. You may be excused.

MR. STOVALL: Would you like to recall --

MR. NITCHER: We would like to recall Ms. Barbara Sturgeon.

BARBARA STURGEON

Having been previously duly sworn upon her oath, was examined and testified further as follows:

EXAMINATION

BY MR. STOVALL:

Q. I think you heard my questions to Mr. Hawkins in which he threw it back to you.

A. Yes, I did. You might repeat it for me, though, so I'm sure I understand.

Q. You bet. The question is with respect to the Land Office's requirement that you also file an application for commingling production from wells which are on state lands. And my question to you is within the individual participating areas does every interest within the participating area share in all production from the participating area pursuant to the unit agreement?

A. Yes, they do.

Q. So as far as the actual allocation of revenues, and particularly with respect to royalties, there really isn't an allocation based on the individual wells and location of those wells; is that correct?

A. Right.

MR. STOVALL: That's really all I had. I just wanted to make sure I understood their system. I know why they're doing it. They have their rules that say you can't commingle non-state and state production.

MR. NITCHER: Yes. We plan to comply with all the state's requirements.

MR. STOVALL: That's all I have.

MR. NITCHER: Thank you.

EXAMINER CATANACH: There being nothing further, Case 10418 will be taken under advisement.

Let's take a ten-minute break here.

(The proceedings were concluded.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10418, heard by me on December 5, 1991.

David R. Catanach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; 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 DECEMBER 16, 1991.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3