STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION COMMISSION

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

APPLICATION OF THE OIL CONSERVATION DIVISION TO AMEND RULE 303.C THROUGH 303.H (19 NMAC 15.E.303)

CASE NO. 12,346

REPORTER'S TRANSCRIPT OF PROCEEDINGS

COMMISSION HEARING

BEFORE: LORI WROTENBERY, CHAIRMAN
JAMI BAILEY, COMMISSIONER
ROBERT LEE, COMMISSIONER

February 25th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Commission, LORI WROTENBERY, Chairman, on Friday, February 25th, 2000, 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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* * *

WHEREUPON, the following proceedings were had at 9:08 a.m.:

CHAIRMAN WROTENBERY: We'll now go on to Case 12,346. This is the Application of the Oil Conservation Division to amend Rule 303.C through 303.H, concerning downhole commingling.

What appearances do we have on this matter?

MR. ROGOFF: Bruce Rogoff for OCD. We'd like to call David Catanach.

CHAIRMAN WROTENBERY: Will anybody else be making appearances in this matter today? Okay.

MR. CATANACH: Ms. Chairman, I'm David Catanach. I'm a petroleum engineer with the OCD here in Santa Fe, and I'm going to be presenting testimony here today on this rule change.

A little bit of background on how we got here. About a little more than a year ago, it was decided internally that there could be a streamlining of the procedure for obtaining downhole commingling, and it was subsequently put on the Division's agenda items for the year.

And to be more specific, behind Exhibit 1 you'll find the Division Director's charge to the work group, and the Division objective -- The overall objective is to hold hearings and process administrative applications, and the overall goal is more efficient government.

The specific action item I was asked to address was to review and revise the downhole commingling procedures. And with that in mind I, about a year ago -- or, I'm sorry, a little less than a year ago, I formed a downhole commingling work group. And the members of the work group are shown behind Exhibit Tab Number 2. And fortunately, we do have all of the -- well, all except one of the work group members here today, and I'd like to introduce them, if I might.

We have Darrell Carriger, who's with Texaco Exploration and Production out of the southeast.

We have Mr. Jim Lovato, who is representing the Bureau of Land Management out of the Farmington Office.

We've got Mr. Larry Sanders, who's representing Phillips Petroleum Company.

Mr. Bill Hawkins, who's representing BP Amoco.

And we've got Mr. Dave Pearson who's representing Yates Petroleum Corporation.

And we are missing -- I'm sorry, and Mr. Tom Kellahin representing NMOGA on our committee.

We are missing Ken Collins, who represented Burlington Resources, and he is out of the Farmington office. He is on vacation.

And on behalf of myself and the Division, I would like to thank these members who worked tirelessly to get this rule to where we are today. And it was a good group of people, and I really enjoyed it.

I'm just going to go through the exhibits as they are in the book.

Behind the work group are the minutes from the meetings that we had. We started meeting in June of 1999. That was our first meeting. We had six meetings. And our last meeting was in January of this year.

And if you care to, we have -- These are the minutes from each of the meetings, what was discussed, agenda items and various things like that.

Behind Exhibit Tab Number 3 is a copy of Division Order R-10,470-A, and this was the order that was issued in March of 1996, that last made major revisions to Rule 303.

And let me just kind of outline what was done with that order. That order increased the total allowable production for commingled oil zones. That also increased the limit on water production. It raised the water production rates so that you could get administrative approval if your well was producing substantial volumes of water.

And probably one of the most important changes that that rule made is, it amended the rule to allow for commingling of marginal zones.

Now, before that the rules said that in order to commingle you had to have a zone that was uneconomic to produce. So that was the major revision to that rule, and it really opened the floodgates in terms of companies filing these applications.

That rule also relaxed the pressure requirements, and we came up with a new criteria. Prior to this rule change, there was a 50-percent differential rule in the zones to be commingled. It couldn't be more than 50-percent differential. This kind of changed the way we look at it. And the current rule states that the highest pressured zone in the well can't be more than the original reservoir pressure of the lower-pressured zone. That's the rule as it currently stands. We're going to change that again.

And the other major change is that it allowed crossflow between zones, provided that the reserves will ultimately be recovered.

And other thing that that rule change did, it created a process whereby a company could come in and obtain what we called a reference case, and that was -- I'll explain that briefly. If you have a lot of data, say, in a certain area, say a lot of pressure data or something else in, say, a federal unit, and you want to come in and you want to establish a reference case, you come in and present your pressure data. And if it is approved, then on all the applications that you subsequently file for downhole commingling, you're excepted from providing that data. And that's kind of the reference philosophy and how that is accomplished.

Just for your reference, I did not include -- There was a 10,470 which preceded this 10,470-A, and what that did was, it allowed administrative approval of commingling where the interest ownership was not the same. Prior to that, if the interest ownership was different, you had to go to hearing on that. So that was what 10,470 did.

And also we've had a rule change subsequent to the R-10,470-A. I did not include that in here, but that was under R-11,224, and that was done in July of last year. And the Commission amended the rule at that time to eliminate notice to offset operators.

So those are the three changes that we've got in the recent history of this rule. And so I've included a copy of 10,470-A for your reference.

Also a few pages back from 10,470-A is Exhibit A to R-10,470-A, and that is the current rule as it stands right now. And I'm not going to go through that at this time.

A few pages after the current rule, we've got what we're using at this point. It's called Form C-107-A, and it's the current form that the Division uses for downhole commingling approval.

Behind Exhibit Tab Number 4 I'd like to go through some of the statistics that we looked at when we did this rule change. The first exhibit is a downhole commingling permit summary, and it lists all of the counties in the state that we've had major downhole commingling activity. It also lists the administrative DHC permits and the hearing DHC permits that have been issued over the history of the OCD in approving downhole commingling.

As you can see, there's been quite a few administrative permits. We have over 2600 at this point. We've got 297 hearing permits, for a total of over 2900 permits.

And one note here, the hearing permits may have included more than one well, and generally did. When we issue a hearing order, it usually approved more than one well for commingling. So we probably have a substantial more number than that.

Subsequent to that, I've just got a breakdown of the administrative commingling permits for the San Juan Basin. This again breaks them down by county. You can see that Rio Arriba had the most in northwest New Mexico with 960.

Administrative permits for the Permian Basin in southeast New Mexico, we've had 894. By far, that is the most in southeast New Mexico. Second is Eddy County with 114.

Permits for downhole commingling that were approved at hearings, for the San Juan Basin, again, Rio Arriba with 99, San Juan 83.

And hearing permits for the Permian Basin, 74 for Lea County, 38 for Eddy County.

Behind that, we've got an exhibit titled the administrative workload, and what this is is the total number of applications that have been processed over the years. And as you can see from the graph, from about 1970 to about 1992 or so, it will remain fairly steady. It started taking off in 1993 and has really jumped up, especially since we changed the rule back in 1996. It just really opened the floodgates and really allowed a lot of operators to commingle where they couldn't before under the rules.

And so last year we had over 400 applications, and it seems to be steady currently, it's about the same.

So this is why we had an idea that we needed to do something to further streamline the process, because the workload on the Division was pretty bad, and it was just a big burden on industry to have to file these things all the time.

So, what I've got behind that tab is the current approval process for downhole commingling, and this kind of gives you an idea how these things are processed now. Each application is filed on a C-107-A, and they're filed with the Santa Fe office of the Division. And they've got to meet all the criteria currently contained within the rule. We call these the prerequisites or the criteria.

The engineering bureau currently reviews each and every application, and we make sure it complies with the rules and that, of course, there's no objection to it. And it usually takes about 20 to 25 days to process an application. After that, we issue a permit number and an order approving the application.

And it's important to note, all the permits are currently approved by Santa Fe. None of them are currently approved by any District Offices.

If the interest ownership between zones to be commingled is different, the applicant currently must notify all interest owners who own interest in the wellbore, and we hold the application for 20 days to allow any operators to object to the proposed commingling.

If we do have an objection, we set the C-107-A to hearing and we hear the case at an Examiner Hearing. And subsequent to that, we issue an order either approving it or denying it.

Again, reference cases, we have generally heard those at Examiner Hearings, and I've already kind of gone over the principle of the reference case. And hearing orders are usually issued in reference cases as well.

So that's kind of the current -- currently the way we do it.

Behind that is a -- The reference case is a little bit unclear to some people, and so I included a copy of a reference order that we had actually issued for Burlington. This was back in 1996. And they came in and obtained exemption status for marginal economic criteria, pressure criteria, allocation formulas and notification rules for its San Juan 28-5 Unit.

And what this order did is, whenever they submitted subsequent C-107-A's after this, they didn't have to submit any pressure data, they didn't have to present any data which would indicate that the zones were marginal and so on. They didn't have to do allocation formulas or...

But the most important thing this did is, it allowed them to not have to notify each and every interest owner in the unit every time they submitted a C-107-A, which was quite burdensome, because we had upwards of 300 or 400 interest owners in some of these units. So that's the most important thing it did for Burlington.

After that exhibit we've got -- I've got another excerpt from 303.C, and these are the current criteria. These are kind of the prerequisites to qualify for downhole commingling, and I'm not going to go through these now because I'm going to go through them a little bit later because they're going to be changed, we're going to recommend changes to each of these. But these are what we require now.

For your reference, I've also got a sample application from Phillips Petroleum Corporation or Company, which was filed fairly recently, and this is kind of the thing that we see regularly.

Behind that we've got a sample administrative order that we issued for all these wells.

And at the current time I'd like to go over the summary of the proposed changes that we'd like to make to the rules, and these are kind of the major points that I'd like to hit.

The Committee has decided that we want to adopt a concept of a pre-approved pool or area, and what this is is an area that -- say it's a combination of two pools, say Blinebry and Drinkard. Say we've had so many comminglings in these pools that we think we have enough data to where we don't need to see everything all the time, we don't need to see extensive data on each application.

And so what we want to do is, we want to approve that as a pre-approved pool, and any subsequent applications to downhole commingle in this pre-approved pool will be filed on a C-103 sundry notice, and it will be done at the District Office. We hope that that streamlines the process. The operators won't have to wait as long to get an order from Santa Fe, and it will be a whole lot less burdensome on them to do so.

We today have a list of pools that we, the committee, would like to recommend as a pre-approved pool list, and we have also a geographic area that we'd like to approve, and I'll go into that a little later.

We analyzed the Division's administrative and hearing order databases, and we came -- Upon this analysis, we determined that there was a lot of pools out there that we thought we had enough data to go ahead and recommend at this time that they be pre-approved pools. And so we've got a list for you today for those.

Again, this Number (3) adopts the streamlined process. This is the C-103 process, and we hope that it will streamline it to where an operator can file a bunch of these at the District and not have to wait for them any substantial amount of time.

And also the C-103 that they file, it's going to contain a lot less information. It's still going to require some information, but it's going to be a lot less than they would normally file on the C-107-A.

This is mis-numbered, it should be number (4). We want to amend the criteria for approval. What I showed you before, the prerequisites or the criteria, we want to change some of those, we want to relax some of the requirements. And in order to honor some of the changes that we've made to the rules, we have to change the Form C-107-A.

And those are basically the major changes that we want to recommend today.

And if I could, I'd like to go over at this time the current approval -- the criteria changes that we would like to make, the current approval criteria versus what we propose. And I guess these are some of the most important changes we want to make.

This is -- Right behind the Summary of Proposed Changes -- are you all with me here? Behind Exhibit Tab Number 5?

CHAIRMAN WROTENBERY: Yeah, got it.

MR. CATANACH: The first criteria that we want to change is, there's currently a requirement that -- for when you commingle two oil zones, we give you an allowable for the well, and that allowable is whatever the top allowable is for the shallowest commingled zone in the wellbore. That's the current rule.

What we want to do is open that up. We see no reason that zones that produce in excess of marginal production should not be commingled. What we are proposing, that is, If you have two oil zones that are commingled, or gas zones for that matter, that they be allowed to produce up to what they would normally produce, their top allowable for that pool. So this will really open up the commingling to some wells that couldn't qualify before because they produced a little bit too much.

Criteria (a)(ii), this goes into the method of production, and we felt that this could be eliminated from the criteria. It really wouldn't be a detriment to the rule if we eliminated this.

There is currently a restriction on water production from these commingled wells, such that the current water limit is twice the oil limit. So if the zone has an 80-barrel-a-day allowable for oil based on the shallowest zone, the well would have a 160-a-day maximum water production allowable.

We thought we'd just take the water production limit out entirely. Generally, these pumped wells are maintained in a pumped off condition, so it's not going to be detrimental to the reservoirs, in our opinion.

Criteria (a)(iv) -- and it's currently in there in two places; it's in there in (a)(iv) and (b)(v) for oil. One section is for oil and one section is for gas. And by the way, we are eliminating the different sections for oil and gas and just combining these into one group of criteria for both oil and gas wells.

And we are not changing that criteria, we felt that was very important, the fluids -- that it's demonstrated that the fluids are compatible and that combining the fluids won't damage any of the reservoirs. We felt that needed to be in there, and we left it in there. We have a minor change in the language on that, I think.

Criteria (a)(v), "The commingling will not jeopardize the efficiency of present or future secondary recovery operations..." We did not change that, we left that in there. We felt it was important to have that in there.

The next criteria on the next page is (b)(i). This is the criteria that pertains to marginal producing zones. This currently states that one of the zones has to be a marginal producer in order to qualify for commingling. The committee recommends that we eliminate this criteria. Again, we see no reason why wells that can produce above marginal rates should not be allowed to commingle. We see no potential harm to the reservoirs, and as long as we maintain an allowable for each pool and enforce the allowable for each pool, we think that we can commingle these zone without any detriments and without any correlative-rights violations.

The next criteria (b)(ii), the bottomhole pressure. And again, currently, to qualify for administrative approval, the current pressure of the highest pressured zone cannot exceed the original reservoir pressure of the lower pressured zone.

And some of the logic, and when we adopted that during the last rule change, we felt that if the current reservoir pressure in the higher pressured zone exceeded the original pressure in the lower pressured zone, there was a chance that due to this high pressure, that it may fracture out of that formation and we may permanently lose reserves. That's the logic that we used last time we changed the rule.

We're not doing a whole lot with the rule with regards to pressure, except that we're allowing -- now, we calculated a pressure differential between the two zones which would be within this safe margin, and we determined that to be -- What we're going to propose is, we're going to propose that based on depth, if the top perforation in the upper zone is within 150 percent of the depth of the lower perforation in the lower zone, that pressure data need not be submitted. And we have an exhibit that kind of goes through this a little bit clearer.

So if your two commingled zones are in this depth range, you won't have to submit any pressure data to obtain commingling. If they're out of this range, you will still have to present pressure data to demonstrate that the pressure in the higher pressured zone won't exceed the frac pressure of the lower pressured zone. And that may be a little bit hard to understand, but I've got an exhibit that will kind of go through that also.

Criteria (b)(iii), "...commingling will not result in the permanent loss of reserves due to crossflow in the wellbore." We didn't change that at all, we left that in there.

"...any zone which is producing from fluid-sensitive formations...is protected from contact from such liquids..." We left that in there with a minor language change. We felt it was important to -- that these formations be protected from fluids that might harm the reservoirs. And again, this is just the criteria that -- the (b)(v) is the one that we've already gone through. We're going to keep this again, but there's only going to be one of these in there.

And those are the major changes to the criteria that we have proposed today.

I'd like to kind of go over the process that we used to come up with the reference pools. Again, we statistically analyzed the databases that we have for all these wells in the state, and --

COMMISSIONER LEE: Are you coming back to explain the (b)(ii)

MR. CATANACH: (b)(ii).

COMMISSIONER LEE: You said later on you were going to explain in detail.

MR. CATANACH: About the pressure?

COMMISSIONER LEE: Yes.

MR. CATANACH: I've got an exhibit. Okay, it's the last page before Exhibit 7, and what this shows is that if we assume a normal pressure gradient in the well, then the pressure in the lower zone is going to be at .433 p.s.i. per foot of depth to the bottom perforation. That's going to be the pressure at that point in the wellbore.

We've also assumed that at the top perforation in the wellbore, in the upper commingled zone, that the fracture pressure of that zone is going to be .65 p.s.i. per foot to the top of that perforation.

If you calculate the pressure differential in the well, we've determined that at 150 percent -- if you take the top perforation and you multiply that depth times 150 percent, that's going to give you a depth in the well where the fracture pressure -- or where the pressure of that lower formation is not going to exceed the fracture pressure of the upper formation. That's where we got the 150 percent.

So anything in this depth range, we feel safe that the pressure in the lower zone is not going to fracture the upper formation. That is why we are recommending that we don't have to submit pressure data for this kind of regime here.

COMMISSIONER LEE: So you're saying that the bottom pressure and the upper pressure, one is 150 and one is 100, and it's okay?

MR. CATANACH: What we're saying, again, is, if you go in a normally pressured wellbore and you assume that the pressure in the lower zone is .433 p.s.i. down to that depth, you can calculate a pressure at that depth in the wellbore --

COMMISSIONER LEE: Uh-huh.

MR. CATANACH: Now, if you take that pressure -- I'm sorry, you can go, then, to the top perforation in the upper zone, and you can calculate what that formation would fracture at at that depth. That would be the fracture pressure at that depth. That depth -- It would be multiplied times .65, times the top perforation depth. So there you've got a fracture pressure at that point in that upper zone.

But what you don't want to have is the lower pressure -- I mean the pressure in the lower zone, you don't want that to exceed the fracture pressure of the upper zone.

So within this 150-percent range, we've determined that that will not occur, that pressure in that lower zone will not exceed the fracture pressure at that point in the upper zone. Does that make sense?

COMMISSIONER LEE: So you basically they have to be very, very close to each other?

MR. CATANACH: They have to be within 150 percent of each other, which would be --

COMMISSIONER LEE: No, I mean, the depth has to be very, very close?

MR. CATANACH: Fairly close, yes, that would be the consequence.

CHAIRMAN WROTENBERY: Do you have any safety factor built in to these assumptions or calculations? How conservative are they?

MR. CATANACH: We do not have any -- Right, we're not taking into account the fluid gradient in the wellbore. And also, these pressures are not generally going to be virgin pressures. They're generally going to be way below what the pressure was at the time, you know, of virgin conditions. So that's a safety factor.

COMMISSIONER LEE: You don't have to worry about a fluid gradient in the wellbore, I don't think, do you?

MR. CATANACH: Right, we've not taken that into consideration. The pressure in the lower pressure zone may not be that high because of fluid in the wellbore.

Is that okay?

CHAIRMAN WROTENBERY: Thank you.

MR. CATANACH: Okay. Behind Exhibit Tab Number 6, we've got some pressure data from the San Juan Basin that we used for -- specifically, this was for the Mesaverde and Dakota. And this first exhibit, which is three pages, came from Burlington, actually. These are all Burlington wells. And they've got a Basin average for the Mesaverde and Dakota, and the differential is not that great between these two formations.

MR. KELLAHIN: So the point was -- ?

MR. CATANACH: So the point was, we felt -- my co-chair.

(Laughter)

MR. CATANACH: We felt that commingling the Mesaverde and the Dakota on a Basinwide deal was fairly safe at this point in terms of reservoir pressure. The pressures were not such that -- We didn't think that the

Dakota pressure was going to be great enough to fracture the Mesaverde formation.

This is also -- Tom's going to point out this map over here that was generated by Burlington, and this kind of illustrates the pressure differential. This is the pressure that the Dakota is placing on the Mesaverde, is my understanding of it. We don't have the witness here that produced this map, but this shows that the Dakota is not exerting very much pressure on the Mesaverde, not nearly enough to -- I think one of the highest is .1 or .2, and of course the fracture pressure, if you assume that, was .6.

So we feel fairly comfortable that the pressures are depleted so much in the San Juan Basin that we're not going to have any fracturing of these commingled zones.

Behind the Burlington exhibit, we've got another exhibit which was provided to us from -- BLM actually provided this to us, and this is just a tabulation some of the pressures that they have gathered. And I think this was in wellbores that they currently had pending applications for downhole commingling. So this is fairly accurate and recent data. And this is just some of the pressure data that we looked at in the San Juan Basin. We looked at a lot more than this. We didn't want to present it all, though.

Okay, we've gone over the pressure, so if you want to go to -- Maybe what I'll do at this point, I'm going to stay on the subject that I've been talking about, and I'm going to go to Exhibit Number 8. And this is the summary of the database that we looked at, and this first exhibit is for the Permian Basin, and this lists the pools that are commingled and the number of orders that we've issued for each pool. And this is kind of what we started out with.

And we've got a similar exhibit for the hearing orders in the Permian Basin, and we follow that up with a similar exhibit for the northwest, which lists the various pool combinations. For instance, in northwest New Mexico, in the Basin-Dakota and the Blanco-Mesaverde Pool, we've got approximately 734 downhole commingled wells in those two formations.

So this is kind of where we started with in terms of analyzing and trying to come up with a list of reference pools. And what we did is, we looked at the pools that had -- at least in the southeast part of the state, we looked at pools that had at least, I believe, three commingled wells in them.

And what we did at that point, we generated a list of these pools, and we actually mapped the commingled pools together, we plotted the wells that have been commingled on these maps, just to make sure we had a good distribution of wells within the two pools, and then we felt comfortable that we had enough data from these wells that had already been commingled to go ahead and accept the whole pool as a reference pool.

And we did the same kind of thing in the San Juan Basin. If you'll look behind Exhibit Tab Number 10, we've got quite a few maps from the San Juan Basin that we generated.

And for instance, this first map is a Mesaverde-Chacra pool, and we mapped the boundaries of the Blanco-Mesaverde Pool and we mapped this particular Chacra interval, and we plotted all the downhole commingled wells, as well as all the hearing-order wells that have been approved. And for instance, in this particular case we got a really good distribution of wells within this Chacra-Mesaverde commingled reservoir. We thought we certainly have enough data at this point to go ahead and recommend that as a reference pool.

And we did that systematically for all of the -- Well, we've got a Chacra-Dakota, we've got a Fruitland Coal and Pictured Cliffs map, we've got a Mesaverde -- I'm sorry?

COMMISSIONER LEE: What is the water table usually in this area of the San Juan Basin?

MR. CATANACH: I'm sorry, the water table?

COMMISSIONER LEE: Yes.
MR. CATANACH: You mean the freshwater interval?
COMMISSIONER LEE: Yes, the freshwater interval.
MR. CATANACH: There's some freshwater in the --
COMMISSIONER LEE: Because your calculation, you're assuming the water is on the surface, immediately, and going all the way down to the reservoir. You're using the .433 as basically a water gradient, and water gradient does not happen until you have fresh water. What is the depth of the fresh water?
MR. CATANACH: Well, certainly in the San Juan Basin we have some water that is fairly close to the surface.
COMMISSIONER LEE: Okay.
MR. CATANACH: Again, just going through these exhibits, we've got a Mesaverde-Dakota, we've got a Dakota-Pictured Cliffs, and we've got a Gallup-Dakota.
And for instance, on this Gallup-Dakota there may be more than one Gallup pool involved. For instance, the outlined acreage in yellow is the base of the Dakota Pool, and we have several Gallup pools in this area that we've plotted on this one map.
And what we've done is recommended approval for, say, the Basin-Dakota, and each one of these Dakota Pools -- or Gallup Pools, I'm sorry, as a pool combination.

If you'll turn to the Dakota and Pictured Cliffs exhibit, I'll just briefly go through that. It's about the third one from the back.

COMMISSIONER LEE: Well, I have a problem with the gas well. The gas well, if you have a gas well, then the gas on the bottom moving to the top, it will maintain the pressure. I think that will exist and exit the fracture portion. Is that true?

MR. CATANACH: I'm sorry --

COMMISSIONER LEE: Okay, suppose you have 1000 feet, one zone. The other one is 1500 feet. Then you have a gas zone. It's -- You have a gas zone. Suppose you have a gas zone 200 feet, and that pressure is coming back. It definitely is going to exit the fracture portion, because the gas is going to be overpressured.

MR. CATANACH: The gas is going to be overpressured in the deep zone, the 1500-foot zone?

COMMISSIONER LEE: Yes.

MR. CATANACH: Are you saying in excess of the .433?

COMMISSIONER LEE: Yes, because that all depends on the thickness of the gas flow. Of course, I'm using exaggerated numbers, 200.

MR. CATANACH: Well, if you have abnormally pressured zones in a wellbore --

COMMISSIONER LEE: It's not abnormal pressure. It's just -- The pressure, the overpressure of the gas, depends on the thickness of the gas zone.

MR. HAWKINS: One of the things I think we want to make sure we're looking at, we're talking about the maximum pressure in the lowest zone would occur at the base of that sand.

CHAIRMAN WROTENBERY: Mr. Hawkins, would you identify yourself?

MR. HAWKINS: I'm sorry, I'm Bill Hawkins with BP Amoco.

The two depths that we're trying to -- What we're basically trying to do is determine, are there some depths of formations or combinations of formations that are close enough together that we wouldn't have to worry about measuring the pressure, that those two zones should be close enough that there's no way the lower zone is going to frac into the upper zone.

So we looked at -- The highest pressure in that low zone is going to occur at the very bottom of the -- at the base of the sand. And so we're looking at that depth, and we're going to compare that to what would be the --

COMMISSIONER LEE: You're not answering --

MR. HAWKINS: -- fracture pressure --

COMMISSIONER LEE: Yes.

MR. HAWKINS: -- the easiest fracture pressure for it to exceed in the upper zone.

COMMISSIONER LEE: Yes, I completely support your proposal here. I'm just saying, in some particular case I do not believe your calculation is valid.

MR. HAWKINS: Our case would only be valid if we're dealing with normal-pressured reservoirs, that's correct.

COMMISSIONER LEE: This is normal -- The one I'm talking about is normal pressured reservoir. You have 200 feet of the gas zone. That means you have additionally 200 feet of the water to support this pressure. So your pressure -- The pressure difference at that particular point, although the depth is 500 feet apart, but the pressure difference is supposed to be 700 feet apart --

MR. HAWKINS: Well, what we're using is the 700 feet, because we're --

COMMISSIONER LEE: You're not using the 700 --

MR. HAWKINS: -- using the depth at the bottom of the --

COMMISSIONER LEE: You are not using the 700 feet.

MR. HAWKINS: If you look at the exhibit that we provide, the little schematic --

COMMISSIONER LEE: The reservoir, the gas reservoir -- Okay, this is the pocket of a gas reservoir. Gas reservoir, the pressure here is essentially the pressure on the bottom of the 700 feet --

MR. HAWKINS: Right.

COMMISSIONER LEE: -- because there's no gradient inside this gas bubble.

MR. HAWKINS: Correct, and we're saying the 150 percent is from the bottom of the sand to the top of the other formation. So we're not looking from the top to the top, we're looking from the bottom of one to the top of the other.

COMMISSIONER LEE: Oh, all right, all right. I'm sorry, yes, yes, you're right. Yes, you're right.

CHAIRMAN WROTENBERY: Does that answer your question?

COMMISSIONER LEE: Yes. Sorry about it.

MR. CATANACH: Okay. Anyway, getting back to where I was, this particular Dakota-Pictured Cliffs, for instance, we're going to recommend that the Basin-Dakota and the -- say the South Blanco-Pictured Cliffs, we're going to recommend that be included as a pool commingling, a reference pool, and that -- For instance, this lists various Pictured Cliffs pools on this exhibit, and we're probably going to recommend most of these PC-Dakota combinations.

Behind Exhibit Tab Number 11 I've plotted some of the pools in the southeast that we're going to recommend for approval as pool combinations, and these again just show the pool boundaries and just show where the downhole commingling wells are within these pools and the distribution, and these are the ones we felt pretty comfortable with in approving -- in recommending them for pre-approved status.

Let me talk about, one of the major things we looked at in the Permian Basin is the Blinebry, Tubb and Drinkard trend. If you go back to Exhibit Number 8, that first page on Exhibit Number 8, what jumps out at you if you look at the administrative orders that have been issued in the Permian Basin are the numbers that have been generated for commingling of Blinebry, Tubb and Drinkard Pools. The Blinebry, Tubb and Drinkard fall fairly close to each other, so they're often commingled in this area of Lea County.

And what I've got up on the wall is, I've got this actual Blinebry-Tubb-Drinkard trend that we've plotted out. And each of these maps represents a different commingling horizon. I don't know what they are exactly, but one of them is Blinebry-Drinkard, one of them is Drinkard-Tubb, and one of them is Blinebry-Tubb.

And what we did is, we plotted all of the downhole commingles in each of these horizons. And, we in our deliberations, determined that there were just so many wells in this whole trend that had been commingled in these three formations, that what we wanted to recommend is that we adopt this whole geographic area for downhole commingling and approval for these three horizons, Blinebry, Tubb and Drinkard, because there's an extensive amount of data that we felt really comfortable with in going ahead and approving these.

And in fact, some of these -- There are some pools that exist in Lea County that have been combined, the Blinebry, Tubb and Drinkard have been combined into one pool by the District Office. So I mean, this is almost to the point where it's almost a common source of supply. There's so much commingling going on that we're recommending this whole geographic area be approved.

And that's shown behind Exhibit Tab Number 9, which is the pools and geographic areas that we are recommending to be pre-approved. Again, this starts off with this Blinebry-Tubb-Drinkard area, and it gives the exact township and ranges of the geographic area we'd like to accept, and this would include all Blinebry, Tubb, Drinkard, Blinebry-Tubb, Blinebry-Drinkard and Tubb-Drinkard pool combinations within this following area.

And I've listed all the Blinebry pools, all the

Tubb pools and all the Drinkard pools, as well as the Blinebry Tubb and Tubb-Drinkard pools that are in this area.

So for instance, if you had a well that was producing in, say, the House-Blinebry and you wanted to commingle it with the Nadine-Tubb Pool in this geographic area, this would fall under the pre-approved area or pool, and you could do this by filing a C-103.

So this takes into account all of these pools and all of this geographic area.

This is the only area that we accepted. From here we get into the specific pool combinations, and those are listed following there. The first one is in Lea County, and I think we've got 23 or so pool combinations in Lea County that we hope to accept.

We've only got one pool combination in Eddy County, and that was because we had -- the numbers were down for Eddy County, but we had quite a few situations where we only had maybe one well commingled in certain pool combinations. We didn't feel like one well was sufficient to go ahead and include that in the pool list. So we only have one pool combination for Eddy County.

We've got quite a few for the San Juan Basin that we're recommending be adopted, and those are shown also on this Exhibit.

We skipped over Exhibit Number 7, which is simply the revised Form C-107-A. This is what we are proposing be used. There is not a whole lot of major changes to this form. The pressure box we changed, we eliminated some of the other boxes.

I guess the most important aspect of this change is, we added the reference pool section. And one of the things that we're recommending is that an operator be allowed to come in to establish reference pools. Say that he's got some pools that aren't on our list and he thinks he's got enough data in this pool to come in and include it in the reference pool section. This is the opportunity. He would file a C-107-A for a particular well, and he would include the additional information down in the reference pool section. And after review of that, we would either approve or deny his request to make these reference pools.

So the operator has the opportunity to add to the list of pools that we hope to establish here today.

And that's really the major change to that form.

Exhibit Number 12, early on in this process, we had a sort of a request from the -- There was a New Mexico Oil and Gas Association commingle group that was meeting kind of simultaneously with our work group, and one of the members of the work group, Mr. Foppiano, had a request that we might take a look at Atoka and Morrow zones in Eddy

County and maybe issue some kind of blanket authorization or reference pool status for the Atoka-Morrow.

And the committee took a look at it, and we declined to recommend the Atoka-Morrow, simply because there were so many different Atoka-Morrow pools in Eddy County that we did not feel that it was appropriate to issue a blanket-type approval for those two formations.

Under the current process, these operators, if they want to include them in a reference pool, they still have the opportunity to come in with their own data, if they want to collect that data and present it to us, we can do these one at a time. Or if they want to do a large area, we can consider that data at a reference-pool-type hearing.

Exhibit Number 13 is the draft of the rule that we are recommending be adopted. And behind that is the red-line, strike-out version of the Rule 303, and that shows all of the changes that we are proposing to make.

During the process of these meetings, I felt that it was important to consult with the Commissioner of Public Lands, and since we had a BLM representative on our committee, we did not specifically consult with BLM. But I did, during the process, consult with Pete Martinez at the Land Office. And specifically what I talked to him about was our proposal to streamline the process where an operator would just have to file a C-103 sundry notice for pools that we hope to -- for reference pools.

I had some discussions with Pete, and we kind of worked out what he would like to see on the C-103. What we envision is, if an operator has to file a -- or is allowed to file a C-103, that they would simply file a copy of that with the Land Office. So I wanted to make sure that the C-103 had all the information that the Land Office would require. And I did consult with Pete, and hopefully I think we got everything on there that we need to. So that was one of the things we did.

The other thing that we did is, on January 26th I sent a letter to the Commissioner of Public Lands advising them of the proposed rule changes and seeking their comments on the rule. I did get a letter back from the Commissioner, signed by -- I'm sorry, that is behind Exhibit Tab Number 14, is the letter I wrote to the Commissioner of Public Lands. And the response is the last page of this exhibit. This is from Mr. Anthony Nash, Deputy Director of the Oil, Gas and Minerals Division. And he did recommend some changes.

We looked at this and we felt that that was already -- what they were suggesting was probably -- was already in there, because Form C-107-A has a box that says, Have you sent a copy of this Application to the

Commissioner of Public Lands? So that's in there. And we did include -- For the process of filing a C-103 sundry notice, we did include that in there to where they would have to file a copy of the C-103 with the Commissioner of Public Lands. So we're going to make sure they file that with you guys.

We think we're done, and we would entertain questions at this time. We've got the whole committee here, so we can hopefully answer any questions you might have.

CHAIRMAN WROTENBERY: Commissioner Bailey?

COMMISSIONER BAILEY: I have a question. In the past, we have received applications from people who would like to get downhole commingling approval prior to the well even being drilled. Do you think this rule would allow that kind of situation?

MR. CATANACH: We are currently processing those type of applications, Jami. We do that pretty much routinely because we have so much data, say, in the San Juan Basin, we feel comfortable with approving these things before they get drilled. The important thing is the allocation of production between the two zones, and we still require that they go into the District Office after the well is drilled and they establish an allocation formula based on well tests or some other method. So that's the important thing, we think, in these applications.

Under the current rule, I would anticipate that we would still approve wells that had not been drilled, if we had a sufficient comfort level. And certainly in a pre-approved pool, we would feel pretty comfortable with that.

COMMISSIONER BAILEY: Which brings up a question I got slightly confused when you all were discussing earlier with Dr. Lee. Does this pre-approved pool concept have a problem for those overpressured zones of the Fruitland Coal?

MR. HAWKINS: In the Fruitland Coal, what we looked at -- I think the only combination we looked at with the Fruitland Coal was the Pictured Cliffs, which is the formation immediately below the Fruitland Coal. And we only included the Pictured Cliff pools that were outside of that overpressured area. But we did not include any of the Pictured Cliff pools that were inside the overpressured part of the Fruitland Coal.

COMMISSIONER BAILEY: Then behind Tab 8, I saw where the Chacra and the Mesaverde and the Gallup were all on this list of zones.

MR. CATANACH: I'm sorry, which list are you looking at, Ms. Bailey?

COMMISSIONER BAILEY: Behind Tab 8, which simply is a tabulation of the orders that have been --

MR. HAWKINS: Right.

COMMISSIONER BAILEY: So which tab is it that has the recommended pools for the --

MR. HAWKINS: It's not 9 --

MR. CATANACH: Yeah, that's behind Tab Number 9.

COMMISSIONER BAILEY: Nine.

MR. CATANACH: And the first page of that tab is this Blinebry-Tubb-Drinkard area that we're recommending.

MR. HAWKINS: The third page is the San Juan Basin.

MR. CATANACH: Yeah, and that's followed by Lea County, and the third page is where the San Juan Basin starts.

COMMISSIONER BAILEY: Okay, I see. No problem. Thank you.

MR. CATANACH: Yes, ma'am.

COMMISSIONER BAILEY: I don't have anything else.

CHAIRMAN WROTENBERY: Let me just ask you, I was trying to read the letter from the Land Commissioner and compare it with what's in the current draft of the rule regarding notice to the Land Office. Are you satisfied with --

COMMISSIONER BAILEY: That's what I was busily doing a while ago, was just seeing if there were -- Yes, I am satisfied.

CHAIRMAN WROTENBERY: Okay.

Commissioner Lee?

COMMISSIONER LEE: No questions.

CHAIRMAN WROTENBERY: No questions?

Mr. Catanach, have you discussed the proposal with our district offices?

MR. CATANACH: I have. This proposed draft rule has been -- we put this out on our website about a month ago, and I have pointed out to the District Offices, District Supervisors, that it's there, they need to look at it. I have not received -- I received a comment from Chris Williams, who had a question on a couple of items, but that's the only correspondence that I've received from any of them.

CHAIRMAN WROTENBERY: Okay.

COMMISSIONER LEE: You talked to your District Office through a website?

MR. CATANACH: Well, we posted the rule on our website, the draft rule.

CHAIRMAN WROTENBERY: And then he let them know individually, it was --

MR. CATANACH: I told them --

CHAIRMAN WROTENBERY: -- on the website.

Have you done any calculations on the cost savings that would be achieved by this particular proposal? Do you have any estimates on the cost to the operator of submitting a downhole commingling application?

MR. CATANACH: I'll let an operator answer that one.

MR. HAWKINS: Yeah, I don't know that we -- We didn't attempt to put any cost savings. I think the main thing is to streamline the process, and there's a couple of things that are going to do that. One is that we've got a list of pools that there's been a lot of commingling activity occurring. We're saying those pools are pre-approved now, you don't have to provide all of the information you've been providing in the past. All you have to do is send a sundry notice in with the perforations that you're going to have and how you're going to allocate production, so that's pretty simple.

CHAIRMAN WROTENBERY: That will entail some cost savings, it would just happen on a --

MR. HAWKINS: It would entail some cost savings because of time savings, and we haven't attempted to, you know, put a number to that.

And the other thing we've done is, we've relaxed to a certain degree some of the criteria that David pointed out earlier where there were some limitations on water production and some limitations due to allowable. We basically said commingling shouldn't be any more restrictive than if you're drilling a single well, in terms of allowables or what you're allowed to produce out of it. You shouldn't have an extra burden, other than single completion. So we've made those fixes.

And that's going to open up a few more wellbores that people had, in the past, said, Oh, I can't commingle that because there's a restriction on something. So that will allow a few more wells to be commingled and hopefully enjoy a savings, you know, in operation efficiency.

MR. PEARSON: Sort of along the lines of Commissioner Baker's [*sic*] -- we've discussed with some of the southeast New Mexico operators with respect to the Atoka-Morrow, and there are -- a bunch more so than the administrative savings, there are operational cost savings, depending on how different operators complete their wells. Speaking for Yates, we tend to frac both zones, and so it's not going to be as material for us, but just in reducing pressure measurements, a couple or three thousand dollars a well.

There are other operators that do their completions differently, and there are much more material savings for them because they don't frac both zones, they don't select -- in essence, they don't really select and test both zones that way. It's not a large -- We used to drill a lot more wells to that depth, and it's not a large well -- but it occurs a lot depending on the depth of the well.

CHAIRMAN WROTENBERY: Thank you.

COMMISSIONER LEE: Well, different spacing, can we commingle it?

MR. CATANACH: Yes, we allow that now, for instance, in the Dakota and some of the shallower Pictured Cliffs formations, we do a lot of commingling.

The interests may be different because of the different spacing units, but in that case we would require them to notify all the interest owners.

COMMISSIONER LEE: So right now you're basically telling people the Fruitland Coal is 160, because the Pictured Cliffs is 160?

MR. CATANACH: The Fruitland Coal is currently spaced on 320.

COMMISSIONER LEE: Right, but if you're allowed to commingle --

MR. CATANACH: Well, they're still precluded from drilling to Fruitland Coal wells on a 320. They can't do that under --

MR. HAWKINS: You can only commingle one of the wells out of the Fruitland Coal in each spacing unit. You can't take the other zone -- you know, open up another well --

MR. CATANACH: Right.

MR. HAWKINS: -- and have more wells in the Fruitland Coal. But you're allowed one, and you can commingle it with something.

MR. CATANACH: Yeah, under the spacing rules you can't have two Fruitland Coal wells, so it doesn't get into this.

CHAIRMAN WROTENBERY: In the situation where you do have different interest ownership in the two zones, how do we notify the interest owners under the proposal?

MR. CATANACH: Well, under the -- If they still had to file a C-107-A, they would do it just like they're doing it now and submit it to Santa Fe. But for the District Office approval, I anticipate that they would have to either make a statement that all interest owners have been notified or actually provide some kind of proof to the District Supervisors that these interest owners have been notified. And I anticipate that the District would probably have to wait 20 days to allow for any objection.

Fortunately, it's not that common, it doesn't really come up too, too often. So for the most part they wouldn't have to deal with it.

CHAIRMAN WROTENBERY: And the interest owners that we're talking about include various types of royalty interests, as well as working interests?

MR. CATANACH: Well, we would notify working, royalty and even overriding royalty interest owners.

MR. KELLAHIN: If you'll turn to Tab 13 and look at the third page of the proposed rule, you will see down at the bottom that if the Commission adopts this process, then in a pre-approved pool you would file a Form C-103, and one of the things the applicant will have to do then is sign a certification attesting to the fact that they have sent notice to all categories of owners in the spacing unit by certified mail.

And then at the top of the next page it says, and also certifying that they have received no objection within that notice period.

So the District Office doesn't have to manage notice, and they don't have to worry about that process. They're going to rely upon the sworn statement of the applicant that notice is satisfied.

If the applicant receives an objection then they can either abandon the application or set it to hearing and have it dealt with in that fashion.

So there's a very specific affirmative notice obligation with the expedited process. The C-107 process for notice is undisturbed.

CHAIRMAN WROTENBERY: And then I guess my next question was for Commissioner Lee. Were you satisfied that there was an adequate safety factor built into this 150-percent standard?

COMMISSIONER LEE: I think so. I think it can be lower than that, because the pressure is already very low.

MR. CATANACH: Yes. Most of these reservoirs have been commingled for years, so we're not talking about virgin reservoir pressure.

CHAIRMAN WROTENBERY: Did you have another -- something to add to that?

MR. CATANACH: I'm -- Did you guys have any --

CHAIRMAN WROTENBERY: Where do we go from here? What's the next step?

MR. CATANACH: Well, surprisingly I haven't had very many comments from industry at this point. As a matter of fact, I haven't had any comments from industry. Bill would like to make a statement on behalf of NMOGA at this time.

MR. HAWKINS: Concurrent with this work group, I was also hearing a group of the NMOGA representatives to keep them advised of where we are in this process so that we would be aware of what we're looking at, the types of rule change we're coming up with, and proposed language.

And so we have gone out to the NMOGA membership several times with informational reports and also with some language that's being considered, and we've had a couple of comments that we brought back to this work group.

And I talked to Rick Foppiano from the Regulatory Practices Committee just a couple of days ago, and he said, you know, that we wanted to make sure that you understood the NMOGA representatives are comfortable with this rule change, we support it, and there may be -- they'd like to have an opportunity to make some comments on specific language. Some of those companies may have their comment. But beyond that, they're very happy with the result that we're proposing to you today.

CHAIRMAN WROTENBERY: Thank you, Mr. Hawkins. Anybody else wanted to make a comment?

MR. LOVATO: I'm Jim Lovato with the Bureau of Land Management. One of the things that we tried to do again was streamline the whole process. Our processes between the Bureau and the OCD are very similar in terms of the application for downhole commingling.

Certainly, if this rule does become amended it's not going to change any of the rules, the existing rules, that the Bureau has. However, what it will do, it will allow us to go and consider all the analysis, all the technical input from the committee in terms of our review processes for downhole commingling.

In the San Juan Basin in particular, we have extensive experience working it with the reference cases, and so this was a real logical extension of that, to consider these pool combinations for downhole commingling. It's really going to streamline our process as well.

In terms of the southeast part of the state, they will take this information under advisement and go and utilize the information as appropriate, but we are not going to be changing the Bureau rule in terms of the streamline process, we'll just take it under advisement.

CHAIRMAN WROTENBERY: Thank you, Mr. Lovato.

Anybody else?

Mr. Catanach, if you think this will work, perhaps what we'll do is extend the comment period -- or establish a comment period, I guess, really, on this particular proposal that would end maybe a week before our next Commission meeting.

Ms. Davidson, do you know when that would be? March 24th is the next Commission hearing, and the Friday before that would be March 17th. Do you think that would give everybody adequate time to take a last look at the proposal?

MR. CATANACH: I think so. I mean, we've been kind of keeping industry advised every step of the way, and I think they're fairly familiar with what we're doing, and I think they've had sufficient time. So...

CHAIRMAN WROTENBERY: And Ms. Hebert, do you think that we'll be able to do all that we need to do in terms of publication of the proposal by that date --

MS. HEBERT: We should be.

CHAIRMAN WROTENBERY: -- or at least by the -- so that we could consider it --

MS. HEBERT: -- for adoption --

CHAIRMAN WROTENBERY: -- for final adoption at the March 24th meeting?

MS. HEBERT: (Nods)

CHAIRMAN WROTENBERY: Okay, we'll make an announcement, then, that we would request that any further comment that anyone would want to make on this proposal should be submitted in writing to the Division by Friday, March 17th, and then we'll take the matter up and, I hope, proceed to final adoption at the Commission's March 24th meeting.

MR. CATANACH: So you wouldn't take any additional testimony at the March hearing?

CHAIRMAN WROTENBERY: I don't know that it would be necessary at this point. I think what we can do is ask for the written comments by the 17th and then judge at that point whether we might need to take some testimony. But right now I'm thinking we'll just ask for written comments.

Okay, will that take care of us procedurally?

MS. HEBERT: (Nods)

CHAIRMAN WROTENBERY: Yes, okay.

Well, I'd just like to say thank you to Mr. Catanach for his presentation. Very well done. Good information. Made it easy to grasp. I really appreciate the effort you put into the presentation and the leadership you've shown on this particular issue.

And thank you, too, to the whole work group. I know I saw you on many occasions in here for fairly lengthy meetings, trying to sort through the issue, and I really appreciate the time and the effort, and thank you for the proposal.

Anything else on this?

COMMISSIONER LEE: No.

CHAIRMAN WROTENBERY: Thank you all very much.

MR. CATANACH: Okay, thank you.

(Thereupon, these proceedings were concluded at 10:30 a.m.)

* * *

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 Commission 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 February 27th, 2000.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002