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Page 2 INDEX Examiner Hearing CASE NO. 14133 PAGE APPEARANCES APPLICANT'S WITNESSES: STEVEN N. HAYDEN DIRECT EXAMINATION BY MS. ALTOMARE EXAMINATION BY MR. WARNELL EXAMINATION BY MR. BROOKS APPLICANT'S EXHIBIT A REPORTER'S CERTIFICATE

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2	APPEARANCES
3	FOR THE APPLICANT:
4	
5	Mikal Altomare, Esq. Assistant General Counsel, Oil Conservation Division
6	1220 South St. Francis Drive Santa Fe, New Mexico 87505
7	ALSO PRESENT FOR WILLIAMS PRODUCTION COMPANY:
8	Ocean Munds-Dry, Esq.
9	HOLLAND & HART, LLP 110 North Guadalupe, Suite 1
10	Santa Fe, New Mexico 87501
11	ALSO PRESENT:
12	Vern Hansen, Williams Production Company
13	
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Page 4 MR. BROOKS: Okay. Let us go back on the record. 1 At 2 this time, we'll call Case No. 14133, the Application for the New Mexico Oil Conservation Division for Pool Creation, 3 4 Pre-approval for Downhole Commingling and Designation of Special Pool Rules, Basin-Mancos Gas Pool, Rio Arriba County, 5 6 and San Juan County, and Sandoval County, New Mexico. 7 MS. ALTOMARE: Mikal Altomare on behalf of the Oil Conservation Division. I have one witness. 8 MR. BROOKS: Other appearances? 9 10 MS. MUNDS-DRY: Good morning, Mr. Examiner, Ocean Munds-Dry with the law firm of Holland & Hart, LLP, 11 representing Williams Production Company this morning. 12 We don't have a witness. I just brought a letter of support to 13 offer for the record for this application. 14 15 MR. BROOKS: Very good. 16 MS. MUNDS-DRY: I would like to recognize that Vern Hansen with Williams Production Company is also here with me 17 this morning. 18 19 MR. BROOKS: Very good. Other appearances? You're 20 just here as an observer, Scott? Okay. Very good. You may proceed, Ms. Altomare. You need to swear your witness. 21 22 [Witness sworn.] 23 MR. BROOKS: And state your name for the record, please. 24 25 THE WITNESS: Steve Hayden.

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MR. BROOKS: Proceed.

MS. ALTOMARE: Thank you, Mr. Examiner. We're here today basically to -- well, to accomplish a Chinese menu of items with regard to this pool. We would like to designate the pool, the Basin-Mancos Gas Pool. We are seeking pre-approval for downhole commingling for the pool and creation of special pool rules.

Basically, I think the application speaks for itself. And Mr. Hayden is much more well equipped to explain the basis for the application and the details of it, so I'm just going to go ahead and call him to the stand and allow him to begin his testimony.

We have put the pool adjustment maps on PowerPoint Presentation in anticipation of the fact that there were going to be several people here in attendance. We have also made an exhibit marked as Exhibit A. They are the same pool maps that are attached to the application; however, they are now in the order that they're going to be presented in the hearing.

So I'm going to go ahead and distribute these. SoI'll go ahead and call Mr. Steve Hayden.

21STEVEN N. HAYDEN22after having been first duly sworn under oath,23was questioned and testified as follows:

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Page 6 1 DIRECT EXAMINATION 2 BY MS. ALTOMARE: Can you state you name for the record again. 3 Ο. 4 Α. Steven N. Hayden. And what is your position and title? 5 Q. I'm the district geologist for District II NMOCD, 6 Α. 7 Aztec, San Juan Basin. And how long have you held that position? 8 Ο. 9 Α. Eight years. Have you testified before for the Division? 10 Ο. 11 Α. Yes. 12 And have you been qualified as an expert? Q. 13 Α. Yes. MS. ALTOMARE: I would move Mr. Hayden to be 14 15 qualified as an expert geologist at this time. 16 MR. BROOKS: He's so gualified. 17 0. (By Ms. Altomare): What are we here for today? Okay. Let me give you a little bit of history 18 Α. 19 first on how this got started. 20 When Frank Chavez was district supervisor, he suggested that it might be a good idea to change the pool rules 21 22 of the Basin Dakota to include the Manco Formation much like the vertical limits of the Blanco Mesaverde were changed to 23 include the Lewis back in '98 -- I believe it was. Or, anyway, 24 it was our 10-987, one of the versions. 25

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We called a meeting with the industry with the 1 2 interested operators and the BLM, and we talked this over. And, of course, the landmen had instant horror at the idea of 3 mixing the Gallup and Dakota interests. So basically, we 4 worked it out and came up with a compromise to make a 5 Basin-Mancos Pool. This for the purpose of picking up what 6 7 extra gas might be available in fractures in the shale and the 8 shale itself and in sand units within the Mancos. And we were 9 going to preserve the existing Gallup Pool as is in order not 10 to confuse the matter extensively.

So this got put off by busier times for a few years, and I just got back to getting it going about the start of What I did was looked at the stratigraphy and the completions in the Gallup Pool, realizing that the Gallup Formation itself actually never does really come into the San Juan Basin except in the very southern and western most parts.

17 The only pools in the San Juan Basin that actually 18 have real Gallup Formation in them are the Hospah Upper and 19 Lower Sands and the Nose Rock Hospah Pool, which is abandoned. 20 You can see the Gallup at the surface in the west on Tocito 21 Dome, but it pinched out at that point. It never made it into 22 the San Juan Basin far enough. It was a shoreline, and it's 23 basically equivalent, although older, to what we see when we look at the Point Lookout Formation. 24

It was the sand that prorated into the seaway into

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Page 8 the rising sea level. And the furthest it made it was the very 1 2 southern limits, what we call the Chaco Slope. For some reason, that was all understood, at least by the 1960s. For 3 some reason, they chose to call most of these pools Gallup, but 4 the Gallup interval was never well-defined and everything in 5 that was productive in the Mancos Formation and the San Juan 6 7 Basin was assigned to the Gallup in these old pools.

For the purpose of the enhancing development to get 8 whatever we could manage to pick up out of the Mancos Interval, 9 we wanted to go through and check the old Gallup pools for 10 productivity. Because the new Basin-Mancos will be much easier 11 from a regulatory point of view to apply for wells and to open 12 up, because we're asking to set the number of wells and the 13 setbacks equal to what's present in the Basin Dakota and Blanco 14 Mesaverde. 15

The present Gallup pools are spaced anywhere from 40 acres to 640 acres, and with a great variety of setbacks, or drilling windows, ranging from 150 feet -- within 150 feet of the center of a quarter/quarter up to 1650 feet from an outer section line on 640 acres. In order to enhance picking these intervals up in Basin Dakota and Mesaverde duals or trios, that it would be better to assign the same spacing.

Q. What are the current spacings for the other pools
that will be --

25

A. The current spacing for the Blanco Mesaverde and

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Page 9 the Basin Dakota are 320-acre spacing units with three infill 1 2 wells. Commonly, it's called 80-acre spacing, but it's 320, really. 3 4 Q. And those are the spacing allocations that you 5 are recommending will be assigned to Basin-Manco gas pools as 6 well? 7 A. Yes. And the setbacks are 660 feet from the outer boundaries and 10 feet from the inner boundaries of the 8 9 320-acre spacing units. Q. And, again, you're recommending that those be 10 11 applied to the Basin-Manco Gas Pool as well? Yes. 12 Α. 13 What are the vertical and horizontal limits for Ο. 14 the new Basin-Mancos Gas Pool? Okay. The Mancos Formation itself is commonly 15 Α. thought of as a big shale interval between the Point Lookout or 16 the bottom of the Mesaverde and the top of the Dakota in the 17 San Juan Basin. It gets more complex as you go south and west, 18 19 but essentially, that works. In the San Juan Basin, though, there's four intervals 20 within the Mancos Formation. That has been called Gallup in 21 22 the past, and they're sandy, silty intervals. The lowest one is just above the Greenhorn -- what we call the Greenhorn 23 Limestone -- and will be the base of this Basin-Mancos Pool. 24 25 And the Greenhorn Limestone is actually properly called the

Bridge Creek Limestone, but they never use that name in the San
 Juan Basin.

3 But anyway, slightly above the Greenhorn Limestone there occasionally is a sandy interval they call the Semilla, 4 5 That has been productive in certain areas. as in seed. Not greatly, usually, but the next interval up that they've 6 7 commonly assigned to the Gallup is called the Juana Lopez member of the Mancos Formation. It lies several hundred feet 8 9 above the Greenhorn, but still in the Lower Mancos, what we 10 call the Carlisle Interval of the Mancos.

The Juana Lopez member represented a shoaling of the Mancos Sea, and it consists usually of what we call clastic limestone, that is, broken shells and stuff that were basically deposited by the sea shallowing to wave basin, these things being broken up. And it's productive in some areas. It's also referred to in the Basin by the name Sanostee after Sanostee Trading Post south of Shiprock.

18 Above that at the top of the Carlisle Interval of the 19 Mancos is where the Gallup is. Stratographically, if you go shoreward in the Basin, that is to the Southwest, in parts of 20 the Basin there's an unconformity there which represents a gap 21 22 in the rock record. And right above that, what they call the Basal Nia Brine Sandstone is also referred to as the Tocito 23 24 member of the Mancos Formation, named for Tocito Dome. You 25 don't actually see it on the Tocito Dome because it lies just

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1 above where the Gallup would be if it was there.

And then several hundred feet above that and still anywhere from 800 to 1200 feel below the Mesaverde through most of the Basin is the Alvida Sandstone Member, which is named for outcrops around Alvida Lake up to the north. Anyway, these four intervals represent what's been developed as the Gallup Formation in the Gallup Pools in the San Juan Basin over the years.

9 So anyway, I want to -- I'm applying for the vertical 10 limits of the Mancos to go from the base of the Greenhorn to 11 the base of the Point Lookout, which will basically enable 12 wells dedicated to all three pools to be available for 13 perforations from the base of the Pictured Cliffs in the case 14 of the Mesaverde, through the base of the Dakota Formation, the 15 top of the Morrison -- or the Basin Dakota.

16 The Mancos Interval probably is low enough in 17 production that it would never be drilled in these areas solely 18 for the purpose of a Mancos well because several tens of MCF 19 gas is probably limiting what it would produce.

20 Q. What are the horizontal limits?

A. Well, the horizontal limits are the same -basically the same as the Basin Dakota, which at a rough scale is San Juan and Rio Arriba Counties. There's one-half section in Sandoval County that's described in here that the Basin Dakota was extended to take in.

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1	Page 12 Q. And that would be Section 21, T23, R5 West?
2	A. Yes. In the northwest, Basin Dakota excludes the
3	Barker Dome/Ute Dome area where there's Dakota pools already
4	established. I didn't bother to exclude that here because the
5	Mancos is very close to the surface. Up there the Mesaverde is
6	at the surface and it's doubtful that anybody's going to
7	produce out of the Mancos. It's a highly fractured area and
8	the Dakota is the first production known up there, so I just
9	didn't bother to put it in as a limit.
10	So anyway, mainly Rio Arriba and San Juan County is
11	the horizontal limits.
12	Q. Are there particular pools that are being
13	specifically excluded in the creation of the Mancos Gas Pool?
14	A. Yeah.
15	Q. What are those pools?
16	A. Okay. The original set of meetings, we came up
17	with an agreement that we would leave the old Gallup Pools
18	alone, basically. That is, you know, in the interest of
19	paid-out royalties and interest owners and so on. We wouldn't
20	try to change them over to include them in the Basin-Mancos.
21	What I did was, in discussions with BLM and some of
22	the operators since the initial planning on this, agreed that
23	in the case of someone drilling a stand-alone oil well that
24	wanted to extend one of the existing Gallup Pools within a mile
25	of the pool boundaries, that we could do that. But if they

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Page 13 were drilling a dual and it was outside the pool boundaries, it 1 2 was dualed with the Dakota or the trio with the Dakota and 3 Mesaverde, that we would put them in the Basin-Mancos because it just makes a lot more sense that way. It's a lot easier 4 5 from a regulatory point of view. And what I did was use the computer facilities that 6 7 we now have to run through all the old Gallup Pools in the 8 affected areas -- I didn't bother with Sandoval County Pools 9 that weren't included here -- to look at -- pick up wells that had been dedicated to those pools without ever having the pools 10 extended in the nomenclature hearing, and to look at 11 12 unproductive, or nonproductive areas within the pools that were on the pool margins where it would be handier to have the pools 13 14 contracted. 15 And going pool by pool, I came up with about 20 of 16 them that I have changes to for purposes of this hearing. 17 I'm going to go ahead and show you what I've Q. 18 marked and distributed as OCD Exhibit A. Do you recognize 19 that? 20 These are copies of the pool maps that I Α. Yes. 21 made up on these. 22 And did you put together this packet and compile 0. 23 it? 24 Α. Yes. What I did is I included -- I just took 25 these diagrams, put them in this PowerPoint, so the diagrams in

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1 the handout are the PowerPoint.

2 Q. And from where did you get the data that you used 3 to put together this packet?

I used RBDMS database. And what I did was I took 4 Α. 5 each pool township by township and looked at the sections where 6 they were shown as active in the pool. Well, first I brought up all wells in the pool and then I checked for plugged wells 7 8 and temporarily abandoned wells and worked it around until I 9 came up with where the pools are active and where they needed 10 to be expanded. And where they weren't active around the margins, I did these contractions so that can be included in 11 12 the Basin-Mancos.

Q. Okay. And so this packet of 20 pool maps represents your recommendations based on the research that you conducted?

A. These are the adjustments to the Gallup Pools that I'm recommending to go along with the creation and special pool rules for Basin-Mancos.

19 Q. Okay.

A. I guess we'll just run through these and show you. Well, it's hard to read that. The first pool was the Baca Gallup Pool. What I did is I showed pool extensions in yellow and pool contractions in gray on these slides. The first one, the Baca Gallup only has extensions -- well, that shows the title. I think we can work with that, probably.

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Page 15 1 Q. Okay. These extensions for the most part take in -- are 2 Α. done with wells that were completed years ago that got omitted 3 from earlier nomenclature hearings and the pools weren't 4 5 extended. Some of them go way back, like 20 or 30 years. 6 Anyway, the text of the hearing also contains these, but I went 7 through a list first of contractions and then a list of the extensions. 8 9 The text of the application, you mean? Q. On the application itself. So you'll see a 10 Α. slightly different order as you go through that, but all the 11 pools are included alphabetically here and just run through 12 13 showing both. 14 Do you want me to cover what wells are extensions? 15 Or do you --MR. BROOKS: Whatever you think is appropriate. 16 We 17 probably don't need any more detail than is necessary since 18 it's an uncontested hearing. THE WITNESS: Okay. Well, since the extensions are 19 listed with the wells in the application, basically what I want 20 21 to show is how these pools have been changed. 22 MR. BROOKS: Okay. Go ahead. 23 So you can see the extension to the Baca Gallup Α. 24 here in this one. The B S Mesa Gallup: The B S Mesa Gallup is 25 a Tocito sand completion. It's a gas pool. But it does have

Page 16 1 different setbacks than the Basin-Mancos -- or the Basin Dakota 2 and the Blanco Mesaverde. So anyway, I've contracted it in the 3 south half of 32 of 27 North, 4 West and extended in 26 North, 4 5 West.

5 Counselors Gallup-Dakota: When the pools contain two 6 formations, I've used a color coding that shows -- the stripes 7 remind me that there's two formations included in the pool. So 8 the Gallup-Dakota Pool, I've extended it by one quarter 9 section. In general, these changes aren't excessive, although 10 this is one of the bigger ones.

Devil's Fork Gallup Associated Pool: I've been 11 12 especially merciless on the associated pools because associated pools are a complexity that really isn't needed at this point 13 in the San Juan Basin. Associated pools have to be completed 14as oil well dedications and then GOR tested. And if they 1516 produce more than 30,000 cubic feet per barrel of oil, they become gas dedications which has to have a new C-102 put in and 17 change the acreage, and it can get really complex if you end up 18 with a 320-acre gas dedication that later has -- well, that has 19 to be an oil well drilled in it. 20

And then they've got to go to hearing to split the -anyway, the oil completions in the Gallup Pools or associated pools in the San Juan Basin are all stripper at this point, so almost any well qualified as a gas well. So it becomes an unneeded complexity. So basically, I've gotten fairly strict

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Page 17 with where I'm cutting back on the associated pools. And most 1 of the operators that I've talked to about it are all in favor. 2 They don't like to do GOR tests. Anyway, this is one of five 3 Gallup Associated pools, the Devil's Fork Gallup. 4 5 Dufer's Point Gallup-Dakota: There are a couple of minor contractions and one extension. And they're all in 6 25 North, 8 West. 7 Escrito Gallup Associated Pool: Again, where I found 8 areas around the margins that were inactive, I've contracted 9 the pools. And I had one well that extended in 24 North, 10 6 West, Section 30, the east half, northeast quarter. 11 Gallegos Gallup Associated Pool: Okay. This -- the 12 included figure that you have in your hands has an error in it. 13 I'm sorry. I thought I had this all corrected. In Township 26 14 North, 12 West, Sections 1 through 5, all the wells in there --15 or 1 through 4 -- all the wells have been -- all those 16 17 guarter/quarters all the affected lands have been removed. Only Sections 5 and 6 in the top row of that, which is shown on 18 19 the slide. I thought I had --(By Ms. Altomare): Is the one on the screen 20 Q. 21 correct? 22 The one on the screen is correct. Α. Okay. So I'll reprint the one and replace the 23 0. 24 one in the exhibit. 25 MR. BROOKS: Thank you.

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Page 18 I found in that township in the Gallegos Gallup, 1 Α. I think there were 170-some wells and only 60 of them were 2 active. But I just did the contractions on the outside part of 3 4 the pool, so --Q. (By Ms. Altomare): Actually, let me correct 5 I believe I printed the ones that I gave to the Hearing 6 that. 7 Examiners directly from the slide show. So I believe they --MR. BROOKS: I really don't see a difference. 8 THE WITNESS: The one I've got has --9 MS. ALTOMARE: You have my version. 10 11 THE WITNESS: Good. MS. ALTOMARE: They have the correct version. 12 THE WITNESS: Good. Good. 13 MR. BROOKS: That helps. 14 THE WITNESS: That's even better. Okay. 15 Anyway, the Gallegos Gallup has a lot of wells, a 16 Α. lot of nonproductive areas, but the rest of them were on the 17 margins and you can make holes in pools, so that's why it looks 18 19 like it does. Gallo Canyon Gallup-Dakota actually more than doubled 20 its size to pick up a well that hadn't been included in the 21 22 pool in earlier nomenclature hearings. The Ice Canyon Gallup Ice Pool: We added a quarter 23 section and removed a half section, so --24 25 The Kutz Gallup: We removed the one quarter section

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Page 19 1 that was in 28 North, 10 West, the southwest part of 32 and 2 also removed the northwest part of 5 in 27 North, 10 West. MR. BROOKS: Cut off the tip of its tail. 3 Well, these actually had been surrounded by 4 Α. 5 Wildcat Basin-Mancos already and there was no productivity there, so it seemed the logical thing to do. 6 7 La Jara Canyon Gas Pool: Had to pick up a southwest quarter of Section 3 -- or Section 34 of 30 North, 5 West. 8 9 MR. BROOKS: I'll compliment you on your correctness of you pronunciation. I mostly hear people call that La Jar-a. 10 11 THE WITNESS: Well, I'm not from Texas, so --MR. BROOKS: Well, I was thinking about people in 12 Colorado, actually. 13 THE WITNESS: Well, I'm originally from Colorado, but 14 15 I don't say Bun-a Vista anymore, either. 16 MR. BROOKS: Well, I compliment you on that also. 17 Laguna Seca Gallup Gas Pool: There are pretty Α. extensive cuts to this based on the fact that there was only 18 one well on that whole big area on 31 North 5 West that somehow 19 got included and it never should have been. And it's plugged, 20 so I deleted that back to just the bare necessities there. And 21 22 then I picked up one more quarter section that we needed to get 23 up to the west. 24 MR. WARNELL: Let me ask you on that one there: It 25 almost seems to a casual observer you just go ahead and take

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Page 20 1 out everything in the 5 West. THE WITNESS: Well, there was some active wells --2 3 MR. WARNELL: There are some active wells down in 4 this area? 5 THE WITNESS: Yeah. That's the way I constrained myself on this. I wanted the landmen not to have heart 6 7 attacks. Well, the landmen got upset at the very thought of changing pools in all these Gallup pools, and I see their 8 9 point. MR. BROOKS: I bet you the lawyers would have been 10 somewhat concerned --11 12 THE WITNESS: Yeah. MR. BROOKS: -- and would have had to have been 13 14 notified. THE WITNESS: The lawyers would have had much 15 16 employment over this. A. South Lindreth Gallup-Dakota: One extension, 17 18 very minor. MR. BROOKS: What's the significance of the striping? 19 THE WITNESS: That, again, is a Gallup Dakota. I 20 21 color-coded my pools in these pool maps. I made these up for 22 my own use, basically. And the brown is Gallup and the kind of 23 tan is Dakota. And then wherever they have both I mix them. Ι do the same thing with Fruitland Sand, Pictured Cliff Pools. 24 Munoz Canyon Gallup Gas Pool: I just picked up an 25

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1 extension there.

2 Northeast Ojito Gallup Dakota: I deleted the stuff that was -- actually, you'll see that the 26 North, 2 West is 3 4 truncated on the west section, west halves -- or west part of that row of sections is truncated. So it's all of 30 and 31 of 5 6 26 North, 2 West, which is just barely more than a quarter-mile 7 wide strip. This one was a place that for a while now I've 8 been needing to do this. This is the time it happened. We had 9 developed quite a few years back an overlap between the Otero 10 Gallup Gas Pool -- or Oil Pool -- and the West Lindreth Gallup-Dakota Oil Pool. 11

And the heavy line shows the places where that overlap was, and I've contracted that to get rid of that overlap. So that contraction is actually still going to be in the West Lindreth Gallup. And then I've extended to pick up one well in the Otero.

17 Tapacito Gallup Associated Pool: Again, I'm trying 18 to limit the associated pool. I took out a strip along the 19 south and west of Section 26 North, 5 West and added extensions 20 to pick up one well.

Totah Gallup Oil Pool: It's fairly extensive as far as the pool goes and contractions on this, because there's a lot of it that isn't active at this point.

I think that this is something that I at least never would have got done before the days of computer databases.

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Page 22 MR. BROOKS: It would have been much more --1 2 It's nice to be able to the tell the computer to Α. pull up all the active wells in Township 27 North, or 26 North, 3 3 West, which is the case here. 4 5 The Wild Horse Gallup Gas Pool: Again, I trimmed it back to take out one plugged well that was more than two miles 6 out of the section, out of the pool. We're almost through with 7 this now. 8 9 And the Willow Gallup Gas Pool: I trimmed about half of that one back. 10 Anyway, this is what I found in areas where there was 11 inactive wells and wells that needed to be added in the Gallup 12 Pools to more or less freeze them in time and space so that we 13 can have all the un-included areas in these slides that aren't 14 in other more stable Gallup Pools in the Basin-Mancos. 15 (By Ms. Altomare): As you discussed a little bit 16 Ο. 17 earlier, our rules allow for the Division to pre-approve certain pools for downhole commingling. 18 Α. In 2000, the Division heard -- I don't remember 19 20 the case number now, but they issued the order -- R-11-363, 21 which changed Rule 303 to allow for selected pools to be pre-approved so that people at the district could handle 22 23 downhole commingling. Q. Do you think that's appropriate in this 24 25 particular case?

A. Well, I think so in this case, because in general, any of the Basin-Mancos completions that are done will be at least dualed with Dakota and possibly tripled with Dakota Mesaverde. And the Dakota Mesaverde is -- or Basin-Dakota and Blanco Mesaverde are pre-approved, and by far we're within the horizontal limits of the Blanco Mesaverde.

7 Almost all of the wells that aren't coal wells these 8 days are being drilled as duals to Mesaverde Dakota. So 9 there's really no reason not to include the interval in the 10 middle which will produce less gas than either of the two on 11 the ends.

Q. And do you think the establishment of this gas pool and the pre-approval of the downhole commingling for the pool with the two other neighboring pools would protect correlative rights, prevent waste, and is in the best interests of conservation?

A. Yes. I think that there's no way that the Gallup -- not Gallup -- the Mancos will drain bigger areas than either the Blanco Mesaverde or the Basin Dakota. So that any place that we can drill a well to either of the two -- the other two -- and include the Mancos, the Mancos is going to be draining less area. So there won't be any draining of offset operators.

Q. Okay. And you touched on this a little bit earlier, but why do you think that it's necessary that special

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Page 24 pool rules be implemented along with the creation of this pool? 1 So that the Mancos which will -- like I said, 2 Α. will drain less area than the others. Certainly not more area 3 will be allowed to have the same density as the wells that it 4 5 maybe tripled or dualed with. In other words, there's no reason to make it -- to do less Mancos than there is to do 6 7 Basin Dakota, for instance, because the Dakota is going to drain more area than the Mancos. 8 9 Q. And again, you are just recommending the same setbacks and the same spacing for --10 Α. Right. 11 Q. -- for the Basin-Mancos as the neighboring two 12 13 pools? There's no -- basically, it's an enticement to 14 Α. 15 maximize the drainage of the gas-containing formations in the San Juan Basin with allowing them to pick up something that 16 would never be drilled on its own. 17 Q. So to summarize, we're asking for the creation of 18 the Basin-Mancos Gas Pool pre-approval of the downhole 19 20 commingling of the Basin-Mancos Gas Pool with Basin Dakota and 21 the Blanco Mesaverde Gas Pool? 22 Α. Yes. 23 0. And the establishment of special pool rules to make the spacing and setbacks consistent with those two other 24 25 pools?

Page 25 A. Yeah. And what I did with the special pool 1 rules, is I cut and pasted from our 10-987 which established 2 the same for the Dakota and Mesaverde and then substituted the 3 Basin-Mancos for the pool names. So it should be up-to-date 4 and equivalent. 5 Q. Is there anything else that you'd like to add 6 7 that you think that we've missed? 8 A. Oh, I'm sure I'll find something later. That's 9 all I can think of right now. MS. ALTOMARE: At this point, I think I'll pass the 10 witness to the Examiners. 11 12 MR. BROOKS: Okay. Mr. Warnell? 13 EXAMINATION BY MR. WARNELL: 14 O. Very impressive. I worked up in the Farmington 15 16 area years ago. And it's nice to hear some of those areas that I hadn't thought about. 17 18 On one of very first slides there -- I should have asked you as we went through it -- just to kind of help clarify 19 in my mind, Sandoval County comes into play. I think it's on 20 21 the third page. 22 A. Yeah. You'll notice that the changes were all made within Rio Arriba. 23 Q. Yes. That's the only place where Sandoval County 24 comes into play here, isn't it? 25

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Page 26 Yeah. I believe so. 1 Α. 2 Q. Yes. The county line runs through the middle of З Α. Township 23 North and --4 5 Yeah. It shows up there on the --Ο. The range of the west -- excuse me --6 Α. east/west -- on the -- I don't know if you -- do you guys have 7 copies of the Hopkins Pool Maps down here? Hopkins Map Service 8 in Farmington puts out pool maps based on -- basically, on my 9 10 nomenclature. MR. BROOKS: If we have them, I'm not aware of them. 11 Anyway, that shows the outlines of Basin Dakota 12 Α. and that's what I was -- I'll talk to Jim Hopkins. He's 13 14 preparing a new map of this interval based on what this hearing is --15 MR. BROOKS: We rely on Florene and that pencil and 16 paper. She's been doing them for the past 40 years. 17 18 THE WITNESS: I use Jim Hopkins as, basically, a critiquer of these things, because unlike us, he has GIS and 19 20 AutoCAD. These pool maps are all done on Microsoft Paint because we don't have a graphics application. 21 22 MS. ALTOMARE: Which in and of itself is quite 23 impressive. THE WITNESS: I did 250 pool maps. 24 25 Q. (By Mr. Warnell): Do you think this will

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Page 27 stimulate some more activity? 1 2 Α. Well, it will make it easier. I talked to Frank 3 just before he retired -- Frank Chavez -- with the idea and went ahead and created the Wildcat Basin and Mancos in ONGUARD 4 and have allowed them to use it with Wildcat spacing, which may 5 or may not prove a problem in this. I guess we can't 6 grandfather the old ones in at 320, from what I hear. 7 But there has been a certain amount of development 8 already based on that. But I'm constantly getting questioned 9 about when this is going to happen. So I think it will 10 increase -- we'll see an increase in those. 11 MR. WARNELL: I don't have any other questions. 12 EXAMINATION 13 BY MR. BROOKS: 14 15 Q. Well, again I get to my favorite question, which is: How do you propose to treat existing Wildcat Basin-Mancos 16 units? 17 I'd like to include them in the Basin-Mancos, but 18 Α. grandfather them in at the present spacing. 19 20 What present spacing --Q. The present spacing would be 160 acres. 21 Α. 22 0. They would mostly be quarter sections or quarter 23 section equivalents? Right. Right. 24 Α. 25 Q. And that would be specifically provided for in

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Page 28 the order, I take it. It would have to be. 1 I don't know. I'm not sure how that would be. 2 Α. Okay. The -- I take it the principles that you 3 0. used in constructing these maps were that you extended pools to 4 include existing Gallup completions? 5 6 Α. Right. Was that within one mile? 7 Q. Within two miles, the San Juan Basin rules. Α. 8 9 Ο. Okay. Well, actually, let me qualify that: I did it 10 Α. within two miles if it was a new well that they were doing 11 while I've been here. A lot of these extensions were due to 12 wells that were dedicated long before I got here to these 13 pools, and then the pools were never extended to pick them up. 14 15 Q. So you extended them to pools that had been dedicated -- to wells that had been dedicated to these pools, 16 regardless of where they were? 17 18 A. Yeah. There's the Gallegos -- no. That one is not two miles. Anyway, there were a couple of them in here 19 20 that were more than two miles out, but they had been dedicated to those pools for decades. 21 22 And this is producing wells? Q. 23 Α. Right. You won't --24 Q. 25 A. Yes.

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Page 29 Q. -- only extend them for producing wells? 1 2 Α. Yes. 3 And similarly, the contractions, did you contract Ο. out areas that had plugged wells on them? 4 Right. Wherever they were plugged out along the 5 Α. margins of the pools. That's what I went looking for. 6 7 Q. You contracted everything subject to not creating 8 holes in pools? 9 Α. Right. 10 Refresh my recollection. I've checked it many Ο. times, but I don't remember these pool rules very well. You 11 said it was 660 from outer and 10 feet from the inner 12 boundaries, which is the way I remember it. But is it 660 from 13 the outer boundaries of the section -- or from the unit -- or 14 15 660 from the outer boundaries from the quarter section? It's 660 from the outer boundaries of the half 16 Α. 17 section. 18 Okay. Q. 19 The quarter section is treated as an internal Α. 20 line. 21 So it's different in that respect from the Ο. 22 statewide gas rule, which is, if I remember right, is 660 from 23 the outer boundaries from the quarter section? 24 Right. But the statewide spacing is 160 acres. Α. Yeah. But state -- well, statewide in the 25 Q.

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Page 30 northwest versus statewide in the southeast. 1 The southeast is different. We don't have any 2 Α. 3 statewide 320s in the northwest. Yeah. The statewide --4 Ο. They have special pool rules. 5 Α. 6 0. The 104-CT, which is the statewide rule for 320-acre units is 660 from the guarter section. 7 8 Well, the special pool rules for the --Α. But for the northwest pools on 320s, it's 660 9 Ο. from the outer boundary --10 It used to contain that quarter section with a 11 Α. setback, but they changed that in the Mesaverde in '98, the 12 Dakota in '02, and Fruitland in '02. 13 MR. BROOKS: Okay. I think that's all I have. 14 Anything further? 15 MS. ALTOMARE: I don't believe so. 16 MR. BROOKS: Very good. Case No. 14133 will be taken 17 18 under advisement. 19 And if there's nothing further, this hearing will stand adjourned. 20 21 [Hearing concluded.] 22 23 i do hereby certify that the foregoing is 24 a complete record of the proceedings in 25 the Examiner hearing of Case No. heard by me on Oll Conservation Division , Examiner

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