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STATE OF NEW MEXICO

ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 16326

Application of COG, Operating, LLC, for a non-standard oil spacing and proration unit and compursory pooling, Lea County, New Mexico

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

THURSDAY, JULY 26, 2018

SANTA FE, NEW MEXICO

This matter came on for hearing before the New Mexico Oil Conservation Division, William B. Jones, Examiner, and David Brooks, Esq., Legal Examiner, on Thursday, July 26, 2018, at the New Mexico Energy, Minerals, and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

Reported by: Mary Therese Macfarlane New Mexico CCR 122 PAUL BACA COURT REPORTERS 500 Fourth Street NW, Suite 105 Albuquerque, New Mexico 87102

Page 2 1 APPEARANCES. 2 For the Applicant: Julia Broggi, Esq. Holland & Hart 3 110 North Guadalupe, Suite 1 Santa Fe, New Mexico 87501 4 (505) 988-4421 jbroggi@hollandhart.com 5 6 INDEX 7 CASE NUMBER 16326 CALLED PAGE 8 MATT SOLOMON. DIRECT EXAMINATION BY MS. BROGGI: 4 9 9 CROSS EXAMINATION BY MR. JONES: 12 CROSS EXAMINATION BY BROOKS: 10 MATT FISHER. DIRECT EXAMINATION BY MS. BROGGI: 13 11 CROSS EXAMINATION BY MR. JONES: 17 12 EXHIBIT INDEX 13 14 EXHIBITS ADMITTED PAGE 15 APPLICANT COG OPERATING, LLC, EXHIBIT 1 9 APPLICANT COG OPERATING, LLC, EXHIBIT 2 9 16 APPLICANT COG OPERATING, LLC, EXHIBIT 3 17 9 APPLICANT COG OPERATING, LLC, EXHIBIT 4 9 18 APPLICANT COG OPERATING, LLC, EXHIBIT 5 9 19 APPLICANT COG OPERATING, LLC, EXHIBIT 6 9 20 APPLICANT COG OPERATING, LLC, EXHIBIT 7 9 21 22 APPLICANT COG OPERATING, LLC, EXHIBIT 8 17 23 APPLICANT COG OPERATING, LLC, EXHIBIT 9 17 24 APPLICANT COG OPERATING, LLC, EXHIBIT 10 17 25 APPLICANT COG OPERATING, LLC, EXHIBIT 11 17

Page 3 (Time Noted: 9:20 a.m.) 1 2 MR. JONES: Okay. We were on page 7. We've got, I take it, two separate wells, 3 4 two separate cases, not really combined. 5 MS. BROGGI: That's correct. You're referring 6 to the Bonaid? 7 MR. JONES: The Bonaid for the Little Bear. 8 MS. BROGGI: Mr. Examiner, there is two Little Bear cases that I will ask to be consolidated, but the 9 10 Bonaid is its own application. 11 MR. JONES: Thank you. That's right. I noticed 12 those were... 13 Okay. Case 16326, Application of COG 14 Operating, LLC, for a non-standard spacing and proration 15 unit and compulsory pooling. 16 Call for appearances. 17 MS. BROGGI: Julia Broggi from Holland & Hart on behalf of Applicant COG Operating, LLC. 18 19 (Note: No response.) 20 MR. JONES: Thank you. Any other appearances? MS. BROGGI: We have two witnesses. 21 22 MR. JONES: Will the witnesses please stand. 23 (Note: Whereupon the designated witnesses 24 were duly sworn.) 25 MATT SOLOMON,

Page 4 having been duly sworn, testified as follows: 1 DIRECT EXAMINATION 2 BY MS. BROGGI: 3 4 Q. Good morning. Will you state your name and by 5 whom you are employed. My name is Matt Solomon. I'm employed by COG 6 Α. 7 Operating, LLC, as a staff landman. 8 0. Have you previously testified before this 9 Division as an expert witness in petroleum land matters? 10 Α. T have. Have your credentials as a petroleum landman 11 0. 12 been accepted by the Division and made a matter of public 13 record? 14 Α. Yes, they were. 15 Q. Are you familiar with the application filed by 16 COG in this case? 17 Α. Yes. 18 Are you familiar with the status of the lands in Q. 19 the subject area? 20 Α. I am. MS. BROGGI: Mr. Examiner, we would tender Mr. 21 22 Solomon as an expert witness in petroleum land matters. 23 MR. JONES: He is so qualified. 24 Mr. Solomon, will you explain what COG is Q. 25 seeking with this application.

Page 5 Yeah. We are seeking to pool the west half --1 Α. 2 rather the east half of the west half of Sections 17 and 20 in Township 24 South, Range 35 East, and in that 3 4 seeking to pool all uncommitted working interest owners 5 and NPRI owners. 6 Q. Are you seeking to dedicate the space you 7 highlighted in the proposed Bonaid Fed Com No. 14H well? 8 Α. That's correct. 9 Q. And designate COG Operating as the operator? 10 Α. That's correct. MS. BROGGI: Mr. Examiner, I omitted to say at 11 12 the beginning, just like Ms. Kessler did in the prior case 13 we are dismissing our request for a non-standard spacing 14 unit and our application was also filed on June 26, 2018. 15 MR. JONES: Okay. (BY MS. BROGGI) Will you please turn to 16 0. 17 Exhibit 1 in the exhibit book or packet. Is this the Draft C-102 in this case? 18 19 Α. Yes, it is. 20 Is it part of the Wildcat Bone Spring pool? Q. 21 Α. Correct. 22 And will the completed interval for this 0. 23 proposed well comply with the Division's setback 24 requirements? 25 Α. It will.

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1	Q. Will you please turn to COG Exhibit No. 2. Does
2	the first page of this exhibit identify the tracts of land
3	comprising the proposed proration unit?
4	A. It does.
5	Q. Does the second page show the ownership interest
б	both by tract and by unit?
7	A. It does.
8	Q. Does it also show the parties that COG is
9	seeking to pool in this case?
10	A. Correct.
11	Q. What is the nature of this?
12	A. It's fee and federal.
13	Q. What type of interest is COG seeking to pool in
14	this case?
15	A. We are seeking to pool the uncommitted working
16	interest owners and the nonparticipating royalty owners.
17	Q. How about the unleased mineral interest owners?
18	A. Yes.
19	Q. For the working interest owners, did COG send
20	them a Well Proposal letter?
21	A. We did.
22	Q. If you will turn to COG Exhibit No. 3, is this a
23	copy of a Well Proposal letter?
24	A. It is.
25	Q. And with respect to the unleased mineral

Page 7 interest owners, if you will turn to COG Exhibit No. 4. 1 2 Is this a copy of the letter that was sent out to these 3 unleased mineral interest owners on the offering to lease 4 the land? 5 Α. It is. 6 Q. Did both the Well Proposal letter and the letter 7 sent to the unleased mineral interest owners include an 8 AFE? Correct. 9 Α. 10 If you will turn to COG Exhibit No. 5. Is that Q. a copy of the AFE? 11 12 Α. It is. 13 Are the costs reflected in the AFE consistent Q. 14 with costs that are incurred in drilling similar 15 horizontal wells in the area? 16 They are. Α. 17 0. For the nonparticipating interest owners, was 18 notice provided to them of this hearing? Notice was provided, correct. 19 Α. Has COG made an estimate of overhead and 20 Q. 21 administrative costs in drilling and producing this 22 proposed well? It has 7,000 for drilling and 700 for operation. 23 Α. 24 Are those overhead rates consistent with what Q. 25 operators are charging in this area for similar wells?

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1 A. It is.

Q. Would you ask that these administrative and overhead costs be incorporated in any Order resulting from this hearing?

5 A. Yes.

6 Q. What efforts did you undertake to reach 7 agreement with the parties that COG is seeking to pool? 8 Α. Well, we sent them Well Proposals which had accompanying JOAs. For most parties we have received 9 10 executed JOAs. From the ones that we have not we are continuing to try to negotiate, although one of the 11 12 particular parties normally prefers to be force pooled.

Q. And if after this hearing you're able to reach agreement with any of those parties, will you notify the Division that you're no longer seeking to pool them? A. Yes, we'll do that.

Q. In your opinion did you make a good faith effort to make an agreement with the parties that you are seeking to pool?

20 A. Yes.

Q. Will you please turn to COG Exhibit No. 6. Is this an affidavit from my office with a letter attached providing Notice to the parties that are being pooled in this case?

25 A. It is.

Page 9 And will you turn to COG Exhibit No. 7. Is this 1 Q. 2 a copy of the Notice of Publication in the Hobbs News Sun, 3 which identifies all parties by name? 4 Α. It is. 5 Were Exhibits No. 1 through 7 either prepared by 0. 6 you or compiled under your direction and supervision? 7 Α. They were. 8 MS. BROGGI, Mr. Examiner, we would move into 9 evidence COG Exhibits Nos. 1 through 7. 10 MR. JONES: Exhibits 1 through 7 are admitted. 11 MS. BROGGI: And I have no further questions for 12 this witness. 13 CROSS-EXAMINATION 14 BY MR. JONES: 15 Was the newspaper Notice published because of a Q. lack of return receipts or --16 Out of an abundance of caution. 17 Α. 18 Okay. This is wildcat Bone Spring oil, correct? Q. 19 Α. Correct. So it's 40-acre spaced. And you would want the 20 Q. 21 building blocks to be based on guarter/guarter 22 equivalents. 23 There's no official pool here, so 24 quarter/quarter equivalents, for the record, that's what 25 you want?

Page 10 1 Α. Correct. 2 Okay. And it's a vertical well -- I mean it's a Q. 3 zero azimuth well? 4 Α. It's a horizontal well. 5 It's horizontal but it's due north? 0. 6 Α. Right. 7 Okay. Okay. And I noticed that on Section 20 Q. 8 in the northeast of the northwest there's fee surface owners. But that's still part of on the same federal --9 10 that whole portion in Section 20 is considered one tract for identically owned tracts; is that right? 11 12 Α. Which part of that? 13 Q. Just the northeast of the northwest of Section 14 20, our records show that it's got fee surface but federal 15 minerals. Oh, yes. Yes. 16 Α. 17 0. So somehow they split the... 18 Α. Correct. 19 0. But they didn't... No, it's all fed minerals. 20 Α. 21 Q. Okay. 22 Everything but what is in Tract 2 is federal Α. minerals. 23 24 Okay. In your Exhibit 2 you have some yellow Q. 25 names. Are those the names that are being pooled? Are

Page 11 those the only names that are being pooled? 1 That's correct. Chevron is the company I 2 Α. alluded to earlier that, at least in my history with them, 3 4 prefer to be force pooled. And yes, Ozark Royalty Company 5 is also somebody who we are trying to force pool, but it 6 has our JOA and we are amenable to going that route if we 7 can. 8 Okay. You didn't color them in down below in Q. the different tracts, but basically Ozark is only in 9 10 Tract 2? 11 Α. Correct. 12 Because Tract 1 is all Con- -- COG Operating? Q. 13 Α. That's correct. That's the federal tract. 14 Tract 1 is the federal tract. Okay. It's under COG Operating, LLC? 15 Q. 16 Right. Α. 17 0. Not Concho? 18 Α. Correct. 19 Q. The name Concho. Okay. And Chevron just prefers to be 20 21 pooled? 22 That has been my history with them is they make Α. 23 it -- they have made it clear to me that they would rather 24 be sent a proposal under the Forced Pooling Order. 25 So they will have time to evaluate, the 30 days, 0.

Page 12 1 yeah. (Note: Nods head.) 2 Α. 3 Okay. And it's a \$12 million well, so it's a 0. 4 pretty expensive well. 5 Α. Yeah. 6 MR. JONES: Okay. Mr. Brooks? 7 CROSS-EXAMINATION 8 BY MR. BROOKS: 9 Q. Yeah. Just what Mr. Jones was talking to you 10 about, I picked up on the line uncommitted or noncommitted working interest or mineral owner, and neither -- when you 11 12 say uncommitted or nonconsenting, neither Chevron or 13 Ozark, is it true that neither Chevron or Ozark is a party 14 to the current operating, or to any current operating unit 15 on this tract? 16 Α. That's correct. 17 0. So actually they are both uncommitted. Correct. 18 Α. 19 0. There is no nonconsenting. Neither of these is 20 a nonconsenting. 21 Α. Correct. Because, as I view it, a person who has told you 22 Q. 23 they are going nonconsent under -- if they are a party to 24 the operating agreement --25 Α. They are --

Page 13 -- it would be more accurate if that was an 1 ο. 2 uncommitted working interest or mineral owner. 3 Okay. Are there any overrides? 0. 4 Α. No. 5 MR. BROOKS: Okay. Thank you. 6 MR. JONES: Okay. Thank you very much. 7 MS. BROGGI: We will call our next witness. 8 THE WITNESS: Well, I wanted to give Mr. Brooks additional information. He had asked me last time in a 9 related case if Katherine Ross was related to the 10 Katherine Ross from Butch Cassidy & the Sundance Kid. 11 12 I have confirmed that it is not one and the 13 same person. 14 MR. JONES: You have just destroyed our... THE WITNESS: I'm sorry, but he had asked me, so 15 I got a... 16 MR. BROOKS: That is a great disappointment, 17 because I was in love with her 50 years ago, as were a lot 18 of other people. 19 20 MATT FISHER, having been previously sworn, testified as follows: 21 22 DIRECT EXAMINATION BY MS. BROGGI: 23 24 Good morning. Will you state your name, by whom Q. 25 you are employed, and in what capacity.

Page 14 My name is Matt Fisher. I'm employed by COG 1 Α. 2 Operating, LLC, and I'm a geologist. 3 And you've previously testified before this 0. 4 Division as an expert in petroleum geology, including in 5 the last case? 6 Α. Yes. 7 And have your credentials as an expert in Q. 8 petroleum geology been accepted by the Division and made a 9 matter of record? 10 Α. Yes. Are you familiar with the application filed by 11 0. 12 COG in this case? 13 Α. Yes. 14 Have you conducted a geological study of the 0. 15 lands in the subject area? 16 Α. Yes. MS. BROGGI: At this time I would tender 17 Mr. Fisher as an expert witness in petroleum geology. 18 So qualified. 19 MR. JONES: 20 Mr. Fisher, what is the target formation for the Q. 21 proposed well? 22 The Upper Bone Spring. Α. 23 ο. Have you prepared a structure map and a cross 24 section of the formation involved in this case? 25 Α. Yes, I have.

Page 15 Will you please turn to COG Exhibit No. 8, and 1 Q. 2 will you identify this for the examiners. This is just a locator map showing COG's 3 Α. Yes. 4 acreage in yellow and the approximate location of the Bonaid 14H. 5 6 Q. Will you turn to the next exhibit, COG Exhibit 7 No. 9 and describe this for the examiner. 8 Α. This is a subsea structure map. The contour 9 intervals are 50 feet and this is a subsea structure map of the top of the Bone Spring. 10 11 Is the structure continuous in this section? 0. 12 Α. Yes, it is. 13 All right. Have you noted any faults or Q. 14 geologic hazards for the horizontal well? 15 Α. No. Please turn to the next exhibit, COG Exhibit No. 16 0. 17 10. Can you identify this for the examiners? Α. This is a locator map showing the location of 18 the cross section which is on next exhibit, going from A 19 to A prime, which is north to south. 20 21 Q. Why did you choose these three wells on the 22 exhibit? These are the three nearest wells to the Bonaid 23 Α. 24 14H and they're the nearest wells to have logs over this 25 interval.

Did you consider these wells to be 1 Q. 2 representative of the area? 3 Α. Yes. 4 Q. Please turn to that final exhibit, COG No. 11. 5 Can you identify this for the examiners? Yes. This is a cross section which was also 6 Α. 7 referenced on the last exhibit going from A to A prime. 8 There is, again, three wells on each tract. 9 There's three tracks for each well. On the left is the 10 gamma ray, in the middle is deep resistivity, and then on the right in blue is your neutron porosity, and in red is 11 12 your density porosity. 13 And do you have the target interval? Q. 14 Α. Yes. This cross section is hung on the top of 15 the Bone Spring and then the target interval is shown by the green box on the left side. 16 17 0. Mr. Fisher, based on your geologic study of this 18 area, have you identified any geologic impediments to 19 drilling a horizontal well in the area? 20 Α. No. And in your opinion can the area be efficiently 21 Q. and economically developed by a horizontal well? 22 23 Α. Yes. 24 In your opinion from each quarter/quarter Q. 25 section contribute more or less equally to the production

Page 17 1 in the spacing unit? 2 Α. Yes. And is horizontal drilling the most efficient 3 Q. 4 method of developing, preventing unnecessary wells, and 5 the ultimate recovery? б Yes. Α. 7 ο. Finally, would granting COG's application in 8 this case be in the best interests of conservation, 9 prevention of waste, and the protection of correlative 10 rights? 11 Α. Yes. 12 Q. Were Exhibits 9 through 11 prepared by you or 13 compiled under your direction? 14 Α. Yes, they were. MS. BROGGI: We would move into evidence COG's 15 16 Exhibits 9 -- no, excuse me. Sorry. 17 Q. Were 8 through 11 prepared by you or under your 18 supervision? 19 Α. Yes, they were. 20 MS. BROGGI: At this time we would move into evidence COG's Exhibits 8 through 11. 21 MR. JONES: Exhibits 8 through 11 are admitted. 22 23 Thank you. 24 CROSS-EXAMINATION 25 BY MR. JONES:

Page 18 Why are you putting the surface well location in 1 Q. 2 the northwest/northwest of Section 17? We want to drill north/south here, and then -- I 3 Α. can't speak on -- uh, there's, I think, some facility 4 5 reasons why that is, but, uh, this was just the best position for us to place the surface well. 6 7 Sounds good. You said Upper Bone Spring. Do Q. 8 you mean -- is it not divided here in Lea County among different Bone Spring intervals? 9 10 Α. This is also referred to as The Avalon. It's just the top of the Bone Spring. 11 12 But not Leonard? You don't call it Leonard? Q. 13 We call it -- somebody here "Leonard," but 14 we were told not to ever call this thing Avalon Leonard, 15 so --16 This interval --Α. 17 0. By Hobbs. This is called The Avalon. 18 Α. 19 0. Okay. It's definitely called Avalon. Yes, sir. 20 Α. 21 Q. What's it called right over in Texas? 22 I'm not sure. Α. 23 Q. Okay. You just work in New Mexico? 24 Α. Yes, sir. 25 These deep resistivities nowadays, how deep do 0.

Page 19 1 they read? I'm not sure on the exact depth. 2 Α. 3 What about resolution nowadays? I'm from the 0. 4 old lateral log days back in the old days. 5 Α. I know they're quite a bit better than they used 6 to be, but I can't give you exacts on that, on the 7 resolution. 8 ο. But you did an run an array induction. They ran an array -- is this an old well? 9 10 Α. Only one of these wells is actually a COG well and one is Enron, one is Chevron. So I can't speak for 11 12 those two wells. 13 Q. Okay. And why did you pick this particular spot 14 to drill? 15 Α. If you look at the cross section the porosity, which is the far right track, we usually try to target the 16 17 shale where it's high porosity and high gamma, and that's the best spot to target here. 18 19 0. Okay. Is it higher porosity because of larger size grains in the sand, or is it because of some kind of 20 21 diagenesis of cementing in the sands, or ... 22 Here I'm not sure exactly. Α. 23 Q. It's just what you see is what you get, I guess. 24 Α. Yes. 25 So you've got neutron and -- and they're reading 0.

Page 20 1 right on top of each other. But you always run a line matrix, right? 2 3 Yes. Α. Q. But this is a sand. 4 This is a shale. 5 Α. Okay. You're calling it a shale. 6 Q. 7 Α. Yes. 8 Q. Okay. 9 Α. It's shaley sands. MR. JONES: Shaley sands. Okay. Okay. Okay. 10 11 That sounds good. Thank you very much. Mr. Brooks, do you have a question? 12 13 MR. BROOKS: I have no questions. 14 MS. BROGGI: If there are no further questions we would ask that Case No. 16326 be taken under 15 16 advisement. 17 MR. JONES: Case 16236 is taken under advisement. 18 19 (Time noted: 9:50 a.m.0 20 21 22 23 24 25

	Page 21
1	STATE OF NEW MEXICO)
2) SS
3	COUNTY OF TAOS)
4	
5	REPORTER'S CERTIFICATE
б	I, MARY THERESE MACFARLANE, New Mexico Reporter
7	CCR No. 122, DO HEREBY CERTIFY that on Thursday, July 26,
8	2018, the proceedings in the above-captioned matter were
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10	shorthand the proceedings set forth herein, and the
11	foregoing pages are a true and correct transcription to
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