Page 1 STATE OF NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT 2 OIL CONSERVATION DIVISION IN THE MATTER OF THE HEARING CALLED 3 BY THE OIL CONSERVATION DIVISION FOR ORIGINA 4 THE PURPOSE OF CONSIDERING: CASE 15329 5 & 15330 (Consolidated) 6 APPLICATION OF COG OPERATING, LLC, FOR 7 A NON-STANDARD SPACING AND PRORATION UNIT AND COMPULSORY POOLING, LEA COUNTY, NEW MEXICO. 8 9. REPORTER'S TRANSCRIPT OF PROCEEDINGS 10 EXAMINER HEARING 7015 JUL 14 P 3:23 11 JUNE 25, 2015 12 Santa Fe, New Mexico 13 14 BEFORE: MICHAEL McMILLAN, CHIEF EXAMINER WILLIAM V. JONES, EXAMINER 15 GABRIEL WADE, LEGAL EXAMINER 16 17 This matter came on for hearing before the New Mexico Oil Conservation Division, Michael McMillan, Chief Examiner, William V. Jones, Examiner, and Gabriel 18 Wade, Legal Examiner, on June 25, 2015, at the New Mexico Energy, Minerals, and Natural Resources 19 Department, Wendell Chino Building, 1220 South St. 20 Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico. 21 22 REPORTED BY: ELLEN H. ALLANIC NEW MEXICO CCR 100 23 CALIFORNIA CSR 8670 PAUL BACA COURT REPORTERS 24 500 Fourth Street, NW Suite 105 25 . Albuquerque, New Mexico 87102

Page 2 1 APPEARANCES 2 For the Applicant 3 Jordan Lee, Kessler, Esq. Holland & Hart 110 North Guadalupe 4 Suite 1 Santa Fe, New Mexico 87501 5 (505)983-6043jlkessler@hollandhart.com 6 7 INDEX 8 CASE NUMBER 15329 AND 15330 CALLED 9 10 COG OPERATING, LLC, CASE-IN-CHIEF: 11 WITNESS DAVID MICHAEL WALLACE 12 Direct Redirect Further By Ms. Kessler 4 13 EXAMINATION Examiner McMillan 14 10 Examiner Jones 11 15 16 WITNESS HENRY ZOLLINGER 17 Direct Redirect Further By Ms. Kessler 13 18 EXAMINATION 19 Examiner McMillan 16 20 Examiner Jones 18 21 22 PAGE 10 Reporter's Certificate 23 24 25

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Page 4 (Time noted 11:29 a.m.) 1 2 EXAMINER McMILLAN: Let's call case No. 15329, Application of COG Operating LLC for a 3 non-standard spacing and proration unit and compulsory 4 pooling, Lea County, New Mexico. 5 6 Call for appearances. MS. KESSLER: Mr. Examiner, Jordan Kessler 7 8 with Holland and Hart in Santa Fe for the applicant. EXAMINER McMILLAN: Any other appearances? 9 10 (No response.) MS. KESSLER: Mr. Examiner, this case has 11 12 been combined with case 15330. We request that it be 13 consolidated. 14 EXAMINER McMILLAN: Okay. Please proceed. MS. KESSLER: I have two witnesses today, 15 16 Mr. Examiner. EXAMINER McMILLAN: Will the witnesses 17 18 please stand up and be sworn in. 19 (Whereupon, the presenting witnesses were 20 administered the oath.) DAVID MICHAEL WALLACE 21 22 having been first duly sworn, was examined and testified 23 as follows: DIRECT EXAMINATION 24 25 BY MS. KESSLER:

Page 5 1 Q. Would you please state your name for the record 2 and tell the Examiners by whom you are employed and in what capacity. 3 It's David Michael Wallace. I'm with COG 4 Α. 5 Operating LLC. Have you previously testified before the 6 Ο. 7 Division? Α. Yes. 8 9 Q. And were your credentials as a petroleum landman accepted and made a matter of record? 10 11 Α. Yes. 12 Are you familiar with the applications filed in Q. these consolidated cases? 13 14 Yes, I am. Α. 15 Are you familiar with the status of the lands in Q. the subject area? 16 17 Α. Yes, I am. MS. KESSLER: Mr. Examiner, I tender 18 19 Mr. Wallace as an expert in petroleum land matters. 20 EXAMINER McMILLAN: So accepted. Mr. Wallace, please turn to what I have marked as 21 Q. 22 COG Exhibits 1 and 2 and identify these exhibits for the 23 Examiner. A. These are the filed C-102s for the Salvador Fee 24 25 3H and 4H, the west half of section ten, 24 South, 34

Page 6 The east half of the west half is going to be the 1 East. ·2 · spacing unit for the 3H well and the west half, west half will be for the 4H. We seek two non-standard 3 160-acre spacing units for these and seek to pool the Δ 5 Bone Spring, the uncommitted mineral interests as to the 6 Bone Spring within the spacing units. What are the API numbers for each well? 7 Q. 8 The Salvador 3H is 30-025-41545. And the 4H is Α. 9 30-025-41538. Has the Division identified a pool and pool code 10 Q. 11 for these wells? It is going to be the Red Hills Bone Spring 12 Α. Yes. 13 North, and that code is 96434. 14; Is this pool governed by Division statewide Q. 15 rules? 16A. It is. 17 Q. And will the completed intervals for each well 18 comply with the 330 setback requirements? 19 Yes. . A. 20 Q. Are the spacing units comprised of fee land? 21 , A. They are. 22 Would you please turn to COG Exhibit 3 and Ο. identify COG's interests and the uncommitted interest 23 24 owners in the proposed spacing units? 25 The west half of ten is undivided fee Α. Yes.

			Page 7
	1	acreag	e with the same ownership: And this ownership
	2	tract j	plat shows the total ownership for the west half.
	3	•	And the bolded entities are the interests that
	4	are un	committed at this point.
	5	Q.	You seek to pool both the uncommitted working
•	6	owners	and unleased mineral interest owners; is that
	· 7	correc	t?
	· 8	Α.	That is correct.
	9	Q.	Please turn to COG Exhibits 4 and 5. Is
	10	Exhibi	t 4 an example of the well proposal letter that
	11	you se	nt to the working interest owners for each well?
-	12	Α.	That is correct.
	13	Q.	And what is the date on this?
	14.	Α.	April 20th, 2015.
	15	Q.	And did this letter include an AFE?
	16	Α.	It did.
	17	Q.	Did you subsequently identify two additional
	18	addres	ses for unleased mineral owners with interests in
	19	the pr	oposed spacing units?
	20	Α.	Yes, I did.
	. 21	Q.	Did you send both the well proposal letter and an
	22	AFE fo	r both wells to those addresses?
	23	A.	Yes, I did.
:	24	Q	And is that included as COG Exhibit 5?
	25	Α.	Yes, it is. It's actually Exhibit 6, yes.
			· ·

Page 8 1 Okay. Did you also identify an heir for Mary D. Q. 2 Alexander? 3 Α. I did. That was Kelly Van Sant. And did you send that heir a well proposal letter 4 Q. 5 and AFE for both wells? Α. I did, yes. 6 7 And that's included as Exhibit 7? Q. 8 That's correct. Α. 9 In addition to the well proposal letters, what Q. 10 other efforts did COG undertake to reach agreement with 11 the parties whom you seek to pool in the drilling of 12 these wells? 13 I'm in the process of negotiating leases with all Α. the parties, with the majority of the parties. I've 14 15 negotiated a term assignment -- I'm sorry. 16 Oxy is -- they are going to farm out in this 17 acreage. We are negotiating that right now. Chevron is 18 evaluating the proposal. And I've negotiated leases with the majority of the addressees and I've leased some 19 20 too. Q. Did each of the well proposal letters that you 21 sent also contain an AFE? 22 23 · A. Yes. And are the costs reflected on these AFEs 24 Ο. consistent with what COG's incurred for drilling similar 25

1.11

Page 9 1 horizontal wells in this area? 2 A. Yes. 3 Do the well proposal letters also identify the 0. overhead and administrative costs while drilling this 4 5 well and also while producing it should you be successful? 6 7 Α. That's correct. What are those costs? 8 . 0. 9 .A. 7,000 a month for drilling and 700 a month for 10 ·producing. 11 And are these overhead rates consistent with what 0. 12 other operators are charging for similar wells? 13 Yes, that is correct. Α. 14 Do you ask that these administrative and overhead Q. 15 costs be incorporated into any order resulting from this 16 hearing? 17 Α. Yes. And do you ask that those rates be adjusted in 18 Q. 19 ·accordance with the appropriate accounting procedures? 20 Α. Yes. 21 Ο. With respect to any uncommitted interest owners, 22 do you request that the Division impose a 200 percent 23 risk penalty? 24 Α. Yes, that's correct. 25 Q. Did COG also identify the offset interest owners

Page 10 in the 40 acres tracts surrounding the proposed 1 2 non-standard unit? A. We did. 3 Q. And were those offset interests included in the 4 5 notice of this hearing? 6 A. Yes. 7 Are those letters as well as an affidavit from my . Q. 8 office attached as Exhibit 8? 9 A. Yes. 10 Q. Was it necessary to publish notice or were all of 11 the parties locatable? 12 We were able to locate addresses for the parties. Α. 13 Q. Did you prepares Exhibits 1 through 7? 14 Α. I did. 15. MS. KESSLER: Mr. Examiner, I move the admission of Exhibits 1 through 8, which includes my 16 17 affidavit. EXAMINER McMILLAN: Exhibit 1, Exhibit 2, 18 Exhibit 3, Exhibit 4, Exhibit 5, Exhibit 6, Exhibit 7 19 20 and Exhibit 8 may now be accepted as part of the record. 21 (Whereupon, COG EXHIBITS 1 THROUGH 8 WERE 22 OFFERED AND ADMITTED.) 23 MS. KESSLER: Thank you, Mr. Examiner. EXAMINATION BY EXAMINER McMILLAN 24 25 EXAMINER McMILLAN: Any depth severances?

Page 11 1 THE WITNESS: Not that I'm aware of, no. 2 EXAMINER McMILLAN: I wasn't clear on your 3 Exhibit 7. You located this individual? THE WITNESS: Yes, I did. As a matter of 4 fact, I'm speaking to her attorney and I'm in the 5 process of leasing her. Yes, they received notice and 6 they all received the proposal. 7 8 EXAMINER McMILLAN: And they have the green 9 cards back from them? 10 THE WITNESS: Yes. 11 MS. KESSLER: That's correct, Mr. Examiner. 12 EXAMINER McMILLAN: Thank you. 13 The location of the project area will be 14 standard relative setbacks, correct? 15 THE WITNESS: That's correct. 16 EXAMINER McMILLAN: And they are proposed 17 wells, correct? 18 THE WITNESS: The 3H is proposed -- they are 19 proposed wells, yes. 20 EXAMINER McMILLAN: I have no further 21 questions. 22 EXAMINATION BY EXAMINER JONES 23 EXAMINER JONES: Your conversations with 24 Chevron and Oxy, what's going on with them; what did 25 they tell you?

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			Page 12
	1		THE WITNESS: Oxy has they want to farm
	2	out to us.	But as in other areas, we are negotiating a
	.3	form. That	's what we are waiting on there.
•	4	•	Chevron, they have elected to not
	5	participate	in the 3H, but they're evaluating the 4H,
	6	so	
	7		EXAMINER JONES: They are going to go
	· 8 ·	.non-consent	with the 3H?
	9.		THE WITNESS: Yes.
	10		EXAMINER JONES: But they are going to go
	11	into one of	the wells but not the other?
	12		THE WITNESS: I'm not sure yet.
	13		EXAMINER JONES: Okay. Well, different
	14	strategies,	I guess.
	15		THE WITNESS: And they do have a very small
	16	interest.	
	17		EXAMINER JONES: Okay. I don't have any
	18	more questio	ons.
	19		EXAMINER McMILLAN: I have no further
	20	questions.	So thank you very much.
	21		MS. KESSLER: I will call my next witness.
	22	•	EXAMINER McMILLAN: Yes, please.
	23:	- (HENRY ZOLLINGER
	24	having been	first duly sworn, was examined and testified
	25	as follows:	

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	Page 13
1	DIRECT EXAMINATION
2	BY MS. KESSLER:
3	.Q. Please state your name for the record and tell
4	the Examiners by whom you're employed and in what
5	capacity?
6	A. My name is Henry Zollinger, and I'm employed by
7	COG Operating LLC as a geologist.
8	Q. Have you previously testified before the
9	Division?
10	A. I have, yes.
11	Q. And were your credentials as a petroleum
12	geologist accepted and made a matter of public record?
13.	A. They were.
14	Q. And are you familiar with the applications filed
15	in these consolidated cases?
16	A. I am, yes;
17	Q. And have you conducted a geologic study of the
18	lands that are the subject of this hearing?
19	A. I have.
20	MS. KESSLER: Mr. Examiner, I would tender
21	Mr. Zollinger as an expert petroleum geologist.
22	EXAMINER McMILLAN: So accepted.
23	Q. Mr. Zollinger, what is the targeted interval for
24	these two wells?
25	A. The targeted interval for both wells is the

Page 14 Second Bone Spring Sand of the Bone Spring Formation. 1 2 Have you prepared a structure map and cross Ο. 3 section of the targeted interval for the Examiners? Yes, I have. 4 Α. Will you please identify COG Exhibit No. 9. 5 Q. 6 Α. Yes. This is a figure depicting a structure map 7 on the base on the Second Bone Spring Sand and true vertical depth, subC. 8 The contour lines are the black lines. 9 And there is a 50-foot contour interval. The orange lines are the 10 11 two wells which we are seeking to pool today. 12 The solid orange lines are the surrounding second Bone Spring development wells within the area. 13 And then the green line and dots and A to A Prime is the line of 14 15 section -- which is a following exhibit. 16 Do you consider the wells that will be depicted Ο. 17 on the next exhibit on A to A Prime representative of wells in this area? 18 19 Yes, I do. Α. 20 Will you turn to COG Exhibit 10. Is this a cross Q. section that you prepared for the Examiners? 21 A. Yes. 22 This is a stratigraphic cross section hung 23 on the base of the Second Bone Spring Sand, which is the 24 map of the previous exhibit. The base of the sand is the solid orange line at the bottom. And the top of the 25

Page 15 sand, as I have it mapped, is the dashed line at the top 1 2 of the section. 3 What is the targeted landing zone? Q. 4 Α. The targeted landing zone is in the bottom third: 5 If you look on the center well, it will be right above 6 the 11,200-foot measured depth mark on the log. 7 Have you identified continuity across the Ο. proposed non-standard units? 8 'g Α. Yes. There's a slight variation in thickness across these sections, but it is not large enough to 10 make a difference for flow of the water pool. 11 12 Q. What conclusions have you drawn based on your 13 geologic study of this area? 14Α. There are no geologic impediments to developing 15 these acres of horizontal wells. Horizontal wells are 16 an efficient and effective way to develop these hydrocarbons, and that each proration unit along each 17 18 well bore path will contribute equally, more or less, to 19 the production of the well bore over the lifetime. 20 Q. Mr. Wallace mentioned earlier that the completed 21 interval will comply with the Division's 330 foot 22 setback requirements; is that correct? 23 Α. That is correct. 24 Do Exhibits 11 and 12 show the proposed well path Ο. 25 and demonstrate compliance with these 330 foot setbacks?

Page 16 1 Α. Yes, they do. 2 Did you prepare Exhibits 9 through 12? Ο. 3 Ά. T did. MS. KESSLER: Mr. Examiner, I would move the 4 admission into evidence of Exhibits 9 through 12. 5 6 EXAMINER McMILLAN: Exhibit 9, Exhibit 10, Exhibit 11, and Exhibit 12 now are part of the record. 7 (Whereupon, COG EXHIBITS 9 THROUGH 12 WERE . 8 9. OFFERED AND ADMITTED.) 10 MS: KESSLER: That completes my examination of this witness, Mr. Examiner. 11 12 EXAMINATION BY EXAMINER McMILLAN EXAMINER McMILLAN: Okay. I am going to 13 give you the same question, is this a stratigraphic or 14. 15 structural... That is an interesting 16 THE WITNESS: 17 question. And it is actually being debated within 18 industry at the moment. 19 These are not conventional rocks, so we 20 don't adhere to the standard structural trap or 21 stratigraphic trap as a production mechanism. They are not quite resource rock since they 22 23 are not hemipelagic shales or mud rocks, so they are just very tight -- well, I like to call them crappy 24 conventional rocks that need horizontal development in 25

Page 17 1 order to make an economic rock: 2΄΄ Well, to that point, what I'd like to say is 3 it's being debated --4 EXAMINER McMILLAN: Okay. 5 THE WITNESS: -- and even internally at Concho. 6 7 EXAMINER McMILLAN: You said it's internally debated. But an isopach will strengthen your case, 8 right? 9 10: THE WITNESS: I don't believe an isopach 11 would be fully necessary with the cross section that I have provided. The thicknesses between the wells are 12 within five percent of each other. So an isopach would 13 show consistency over the wells. 14 15 EXAMINER McMILLAN: That's all I'm trying 16 to --17 THE WITNESS: Sure, yeah. EXAMINER McMILLAN: That's what I would like 18 19 to see. 20 And just for clarification, on 11, on 21 Exhibit 11, the perforated -- the penetration point will 22 be 330 from the south; I didn't see it on there. Ι 23 wanted to make sure we are clear on that. 24 THE WITNESS: Yeah, that is correct. So the 25 blue dashed line on this exhibit shows our proposed well

Page 18 1 bore trajectory within that brown box. 2 The gray dash line is just a straight from surface hole to bottom hole location. 3. EXAMINER McMILLAN: Because I see the 330 4 from the north, not necessarily the two sections. 5 6. THE WITNESS: Oh, understood. 7 EXAMINER McMILLAN: That's what I'm trying 8 to get at. g THE WITNESS: Sure. EXAMINER McMILLAN: And I have no further 10 11 questions. Please proceed. 12 EXAMINATION BY EXAMINER JONES 13 EXAMINER JONES: Mr. Zollinger, the Third 14 Bone Spring seems to be really easy for me to see but 15 the Second looks different. 16 What is the difference between those two 17 qeologically? THE WITNESS: I guess I don't understand the 18 question --19 20 EXAMINER JONES: Well, as far as the 21[.] behavior -- if you look at your cross section under the letter A, the second tract over, is a resistivity tract? 22 23 THE WITNESS: 'Uh-huh. EXAMINER JONES: You got high resistivity 24 25 going down to lower. And then as you shift down a

Page 19

1 little bit, you got high going to lower and high going 2 to lower. So oil over water, oil over water, oil over 3 water.

. .,

25

THE WITNESS: Yeah, I am not sure we can make that interpretation off these logs. This is an older vintage of log on the well bore on the left under A. And I don't believe that it's just the same standard of what we are collecting today, such as the well in the middle, which is one of our pilot holes on one of these wells.

11 EXAMINER JONES: So the well in the middle 12 is the best log?

13 THE WITNESS: Yes. And if you look at the 14 density tracts, the density neutrons, they do seem to 15 fall in line a little bit more with each other, as 16 opposed to looking at the resistivity.

EXAMINER JONES: Okay. So your gamma ray doesn't seem -- so sequenced stratigraphy out here, is that term used for the Bone Spring or you would say, no, there is --

THE WITNESS: When interpreting the deposition of the entire basin, I would use sequence stratigraphy as the term to describe the deposition of all of these rocks. So, yes, I would.

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EXAMINER JONES: But there's no coarse rocks

Page 20 1 over --2 THE WITNESS: I don't see the standard 3 sequences, no, not on these well rocks. 4 EXAMINER JONES: I don't have any more 5 questions. 6 EXAMINER McMILLAN: Okay. I have no further 7 And case No. 15329 will be taken under questions. advisement. And case No. 15330 will be taken under 8 9 advisement. 10 MS. KESSLER: Mr. Examiner, do we have time 11 for one more case? 12 EXAMINER McMILLAN: That's what I was 13 getting ready to mention. Let's go ahead and let's do 14 case 15236. 15 MS. KESSLER: That's the --16 EXAMINER McMILLAN: -- that's the Antelope 17 Ridge. 18 MS. KESSLER: My witnesses are coming back 19 after lunch for that, but the Scooter witnesses are here 20 right now. 21 EXAMINER McMILLAN: Okay. Give me a second. 22 (Time noted 11 1:47 and record of the proceedings in Okay. We'll call 15331 next. 23 24 Exeminer neard by me on 25 Valion-Devision

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3	COUNTY OF BERNALILLO)
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7	REPORTI	PER'S CERTIFICATE
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