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STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

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

APPLICATION OF CHEVRON USA, INC. FOR CASE NO. 16436 APPROVAL OF THE JAVELINA UNIT AND SURFACE COMMINGLING, EDDY COUNTY, NEW MEXICO.

## REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

October 4, 2018

Santa Fe, New Mexico

BEFORE: MICHAEL McMILLAN, CHIEF EXAMINER PHILLIP GOETZE, TECHNICAL EXAMINER DAVID K. BROOKS, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Michael McMillan, Chief Examiner, Phillip Goetze, Technical Examiner, and David K. Brooks, Legal Examiner, on Thursday, October 4, 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 C. Hankins, CCR, RPR New Mexico CCR #20 Paul Baca Professional Court Reporters 500 4th Street, Northwest, Suite 105 Albuquerque, New Mexico 87102 (505) 843-9241

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                             APPEARANCES
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     FOR APPLICANT CHEVRON USA, INC.:
 3
          JENNIFER L. BRADFUTE, ESQ.
          MODRALL, SPERLING, ROEHL, HARRIS & SISK, P.A.
          500 4th Street, Northwest, Suite 1000
 4
          Albuquerque, New Mexico 87102
 5
          (505) 848-1800
          jlb@modrall.com
 б
 7
     FOR INTERESTED PARTIES DOUGLAS MCLEOD AND PETROGULF
     CORPORATION AND TITUS OIL & GAS:
 8
          JAMES G. BRUCE, ESO.
 9
          Post Office Box 1056
          Santa Fe, New Mexico 87504
          (505) 982-2043
10
          jamesbruc@aol.com
11
12
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Page 4 (10:20 a.m.) 1 2 EXAMINER McMILLAN: Call Case Number 16436, application of Chevron USA, Incorporated for approval of 3 the Javelina Unit and surface commingling, Eddy County, 4 New Mexico. 5 Call for appearances. 6 7 MS. BRADFUTE: Mr. Examiner, Jennifer 8 Bradfute on behalf of the Applicant. 9 EXAMINER McMILLAN: Any other appearances? MR. BRUCE: Mr. Examiner, Jim Bruce of 10 11 Santa Fe representing Douglas McLeod and Petrogulf Corporation and Titus Oil & Gas. I have one witness who 12 13 may make a statement or testify. 14 EXAMINER McMILLAN: Okay. MS. BRADFUTE: And, Mr. Examiner, I have 15 16 two witnesses here today. 17 But, Jim, was your witness listed on the 18 pre-hearing statement? 19 MR. BRUCE: Yeah. 20 EXAMINER McMILLAN: If all the witnesses 21 would please stand up and be sworn in at this time. 22 (Mr. Cooper, Mr. Verner and Mr. Plazak 23 sworn.) 24 MS. BRADFUTE: I'd like to call my first 25 witness.

	Page 5	
1	EXAMINER McMILLAN: Please proceed.	
2	CHRISTOPHER COOPER,	
3	after having been first duly sworn under oath, was	
4	questioned and testified as follows:	
5	DIRECT EXAMINATION	
6	BY MS. BRADFUTE:	
7	Q. Good morning.	
8	A. Good morning.	
9	Q. Could you please state your name for the	
10	record?	
11	A. Christopher Cooper.	
12	Q. And, Mr. Cooper, who do you work for?	
13	A. Chevron USA, Inc.	
14	Q. And what is your position at Chevron?	
15	A. I'm a landman.	
16	Q. Okay. And what are your responsibilities as a	
17	landman?	
18	A. I am over Eddy County, New Mexico.	
19	Q. And have you previously testified before the	
20	Division?	
21	A. I have.	
22	Q. And were your credentials accepted and made	
23	part of the record?	
24	A. Yes, they were.	
25	Q. And are you familiar with the application	

Page 6 that's been filed by Chevron in Case 16436? 1 2 Α. Yes, I am. 3 Q. And are you familiar with the status of the 4 lands which are included within the unit area which is 5 the subject of this application? 6 Α. Yes. 7 MS. BRADFUTE: I'd like to tender 8 Mr. Cooper as an expert witness in land matters. 9 MR. BRUCE: No objection. 10 EXAMINER McMILLAN: So qualified. 11 0. (BY MS. BRADFUTE) Mr. Cooper, could you please 12 turn to what's been marked as Exhibit Number 1 in the 13 packet in front of you? And this exhibit is a copy of 14 Chevron's application in this matter, correct? 15 Α. Correct. 16 Could you please explain what Chevron is Q. 17 seeking in this application? 18 Chevron is seeking an order approving the Α. 19 Javelina Unit and approving surface commingling 20 production from the Bone Spring and Wolfcamp pools as to the unit area. 21 22 Q. Okay. And approximately how large will the unit be? 23 24 Α. Approximately 5,769 acres, more or less. 25 Okay. And --Q.

Page 7 1 Α. Excuse me. It's 51 -- 5,139. Excuse me. 2 0. Thank you. 3 Could you please turn to what's been marked 4 as Exhibit 2? Does Exhibit 2 contain a copy of the unit 5 agreement that's been proposed for the Javelina Unit? 6 Yes, it does. Α. 7 And can you please explain what types of lands Q. are going to be included in this unit? 8 9 Α. The lands included in this unit will include state and federal acreage. 10 11 0. And does this unit agreement follow the BLM's 12 schedule form? 13 Yes, it does. Α. 14 Q. And have you had an opportunity to meet with 15 the Bureau of Land Management to discuss the unit? 16 Α. Yes, we have. 17 Q. Okay. Can you briefly discuss those meetings 18 for the hearing examiners? 19 We met initially with the BLM and the SLO Α. Yes. to discuss the general proposed unit, and then we later 20 21 met with both to discuss initial approval of the unit. 22 And we have received initial approval letters from both 23 the BLM and SLO. 24 0. Okay. Great. 25 And if you could please turn to Exhibit 3

Page 8 in the packet in front of you, does Exhibit 3 contain 1 2 the preliminary approval letter from the Bureau of Land 3 Management? Yes, it does. 4 Α. 5 And just as a point of correction here, it says Q. 6 that the unit is going to be 5,119.76 acres, correct? 7 Correct. Α. 8 Q. Okay. Great. And if you could please turn to Exhibit 4, 9 does Exhibit 4 contain the preliminary approval letter 10 11 obtained from the New Mexico State Land Office? 12 Α. Yes, it does. 13 Is Chevron seeking approval of this unit in Q. order to facilitate horizontal development? 14 15 Α. Yes, we are. 16 Okay. And could you explain what the Q. 17 concept -- the development concept is to the hearing 18 examiners for the development area? 19 Α. Chevron will develop by two-mile laterals with six wells per section as to both the Bone Spring and the 20 21 Wolfcamp Formations. 22 Q. So the targeted formations that Chevron is 23 seeking to develop in the unit are going to be the Bone 24 Spring and then the Wolfcamp? 25 Α. Correct.

Q. I want to turn back to Exhibit 2, which is the unit agreement, and I want to look at page 4 of the unit agreement.

4 A. Okay.

5 Q. What depths are being unitized in the 6 agreement?

7 Α. The depths that will be unitized are all 8 formations from the "stratigraphic equivalent of the top 9 of the Bone Spring Formation defined as the stratigraphic equivalent of the top of the Bone Spring 10 Lime, as seen at 8,400 feet beneath the surface in that 11 12 certain Schlumberger Gamma Ray and Dual Laterolog/MSFL, dated November 13, 1980, in the Sotol Federal 1 (API 13 30-015-23459) located in Section 12, Township 24 South, 14 15 Range 31 East, Eddy County, New Mexico, to the center of 16 the earth."

Q. And does the unit agreement treat that area as
a single participating area?

A. It does not. The unit agreement requires that
the different formations receive their own participating
area. So in this case, the Bone Spring and the Wolfcamp
Formations will receive their own participating areas.

Q. Okay. So there will be different participating
 areas within the Bone Spring and different participating
 areas in the Wolfcamp Formations?

Page 10 1 Α. Correct. 2 And under the unit agreement, is it -- that you 0. 3 might set up several participating areas in those formations? 4 5 Α. Yes, it is. 6 Okay. And does the unit agreement contain an Q. 7 Exhibit A which provides an outline of the proposed unit 8 area? 9 Yes, it does. Α. 10 And, actually, if you turn to Exhibit 5 in the Q. 11 packet in front of you, is there a slide which 12 duplicates the Exhibit A to the unit agreement? 13 Α. Yes. That is marked as Exhibit 6 -- excuse me -- Exhibit 5. 14 15 Exhibit 5. Thank you. ο. 16 If you could look at Exhibit 5 and walk 17 through this diagram for the hearing examiners. This exhibit shows an outline of the 18 Α. Yes. 19 proposed unit. And the sections that are hashed are state sections, and the sections that are unhashed are 20 21 federal sections. And on the left-hand side, you'll see 22 that the federal lands contain approximately 3,839 acres 23 or 75 percent of the total lands, and the state acreage totals approximately 1,279 acres or 25 percent of the 24 25 total acreage.

Q. And is there also an Exhibit B to the unit agreement which shows an ownership breakdown by tract and footage?

4 A. Yes, there is.

5 Okay. And if you turn to Exhibit 6 within 0. this, could you please explain what Exhibit 6 shows? 6 7 Α. Exhibit 6 shows on the left-hand side the recapitulation of each tract in the unit as shown in 8 Exhibit 5. And it shows the number of acres that each 9 10 tract has and the percentage that tract is as to the entire unit on the right-hand column. And then on the 11 right-hand side of the page is a breakdown of the 12 working interest owners of the proposed Javelina Unit. 13

Q. And are there any uncommitted working interest
 owners for this particular unit?

16 A. There are.

Q. Could you please identify who those are?
A. The uncommitted owners are COG Operating,
Concho Oil & Gas, Devon Energy, Titus Oil & Gas,
Mabee-Flynt Lease Trust, Melissa Catherine Dougherty,
Kevin Francis Dougherty.

22 Q. And are there any uncommitted lessees of 23 record?

A. The only one is COG Operating.

25 Q. Okay. And this is a voluntary unit, correct?

Page 12 It is. 1 Α. 2 Are there any overriding royalty interests in 0. the leases that are being unitized? 3 4 Α. Yes, there are. 5 And did Chevron provide notice of this Q. 6 application to those overriding royalty interest owners? 7 Α. Yes, we did. 8 And with regard to the instruments which create Q. those overrides, have you looked at those documents and 9 10 determined whether they contain a pooling or unitization 11 provision? 12 Α. Yes. And they do allow for pooling or unitization. 13 14 0. And has Chevron prepared a plan of development for the unit? 15 16 Α. We have. 17 Q. And if you could please turn to Exhibit 7, does 18 Exhibit 7 contain a diagram of that plan of development? Yes, it does. 19 Α. 20 On the left-hand side, you'll see, as I 21 said earlier, the general plan of development, which is 22 two-mile laterals with six wells per section developed 23 on pad drilling. And on the right-hand side, this is 24 the well commitment that Chevron included in the unit 25 agreement with the BLM as part of our negotiations of

Page 13 this unit. Wherein, Chevron committed to drill at least 1 2 eight wells over the five-year period of the unit agreement to be drilled at least one well per Bone 3 Spring and Wolfcamp Formation per section in the unit. 4 5 So between those eight wells, Chevron will have drilled a two-mile lateral as to every section in both the Bone 6 7 Spring and Wolfcamp Formations. 8 And was this plan of development discussed with Q. 9 the Bureau of Land Management? 10 And it was approved by them. Α. Yes. 11 0. Okay. And was this plan of development 12 discussed with the New Mexico State Land Office? 13 Yes. And it was approved by them as well. Α. 14 How will production be allocated in the unit? 0. Production will be allocated via the working 15 Α. 16 interests, as shown in Exhibit 5. 17 Q. Okay. And there is an exhibit to the unit 18 agreement which also gives an allocation measurement as 19 well? 20 Correct. Α. 21 Chevron is also seeking approval to commingle Q. 22 production through surface facilities in the unit, 23 correct? 24 Α. Correct. 25 And it's seeking that approval because Q.

Page 14 production is going to be obtained from both the Bone 1 Spring and the Wolfcamp Formations? 2 Α. 3 Correct. 4 0. Is the ownership underlying the unit identical 5 within those two formations? Yes, it is identical. 6 Α. 7 And there are no depth severances which Q. underlie the unit area? 8 9 Α. Correct. There are no depth severances. 10 0. And Chevron's proposing to commingle the production from those formations? 11 12 Α. Yes. What is the pool code for the Bone Spring 13 Q. Formation within the unit? 14 The pool code for the Bone Spring is 13367. 15 Α. 16 Q. Okay. And the Wolfcamp pool underlying the 17 formation is the Purple Sage; Wolfcamp Gas Pool, 18 correct? 19 Α. Correct. 20 And how will production be measured within the ο. 21 unit? 22 Α. Production will be measured as shown in the 23 diagram in Exhibit 8. It will be measured after the 24 test separators for gas, oil and water. Oil will intimately be measured at a LACT, and gas will be 25

Page 15 measured at a single take-away point before the 1 2 compressor stations. 3 Q. And why is Chevron seeking to commingle production from the unit? 4 This will allow Chevron to use the least amount 5 Α. of surface possible. It will decrease the total amount 6 of facilities, therefore decreasing total cost of the 7 8 unit, and it will also ease the administrative burden of 9 administering the unit. 10 If you could please turn to Exhibit 9, does 0. Exhibit 9 contain an affidavit that's been prepared by 11 12 counsel confirming that notice was provided to affected 13 parties of this application? 14 Α. Yes. 15 And Chevron has provided notice to working Q. 16 interest owners within the unit, correct? 17 Correct. Α. 18 It's provided notice to the lessees of record Q. 19 within the unit, correct? 20 Α. Correct. 21 And it's provided notice to the overriding Q. 22 royalty interest owners within the unit? 23 Α. Correct. 24 As well as offset operators? Q. 25 Correct. Α.

Page 16 And there is proof of notice attached to this 1 Q. 2 affidavit, correct? 3 Α. Yes. 4 There were some mailings that were not able to Q. 5 be delivered. Is that your understanding? 6 Α. Yes. 7 And has Chevron also published notice in the Q. 8 "Carlsbad Current-Argus" listing all of the parties who 9 were given notice? 10 Α. Yes. 11 And could you please explain what efforts you Q. 12 undertook to locate addresses for the parties who were 13 notified? Yes. We searched all of the public records in 14 Α. Eddy County. And for those that we were unable to find, 15 16 we made phone calls and checked Internet records, discussed with other working interests or override 17 18 owners to try to get those current addresses. 19 Q. And in your opinion, did you exercise 20 reasonable diligence to locate that address information? 21 Α. Yes. 22 Q. Were Exhibits 1 through 9 prepared by you or 23 compiled under your direction or supervision or from 24 company business records? 25 Yes, they were. Α.

Page 17 And does Chevron have any timing restrictions 1 0. 2 which could impact development within this unit? Yes, we do. The BLM has indicated that we need 3 Α. to submit for final approval of this unit by the time 4 our initial wells are completed in the Wolfcamp 5 Formation, so they would like to see final approval 6 7 submitted to them by the end of the year. And just for clarification, Chevron has started 8 Q. 9 drilling some of the initial wells within the area; is 10 that correct? 11 Correct. We spud the initial wells in Α. 12 September. 13 Okay. And so Chevron is asking for an 0. 14 expedited order of this application so that it can get 15 everything the BLM has requested before the end of the 16 year? 17 Α. Yes, we are. 18 MS. BRADFUTE: I would like to tender 19 Exhibits 1 through 9 into the record. 20 MR. BRUCE: No objection. EXAMINER McMILLAN: Exhibits 1 through 9 21 22 may now be accepted as part of the record. 23 (Chevron USA, Inc. Exhibit Numbers 1 24 through 9 are offered and admitted into 25 evidence.)

Page 18 (BY MS. BRADFUTE) And, Mr. Cooper, in your 1 Q. 2 opinion, is the granting of Chevron's application in the 3 interest of the prevention of waste and the protection 4 of correlative rights? 5 Α. Yes, it is. MS. BRADFUTE: That concludes my questions. 6 7 CROSS-EXAMINATION 8 BY MR. BRUCE: 9 A few questions, Mr. Cooper. First looking at Q. Titus Oil & Gas, am I correct that they own a working 10 interest in Section 2? 11 12 Α. Yes, they do. 13 And you've been in touch with them, and they've 0. 14 been in touch with you regarding the unit? 15 Α. Correct. 16 And they don't oppose the unitization at all; Q. is that correct? 17 18 Α. Correct. 19 What is your understanding of their concern Q. about their interests? 20 As I understand it, Titus was assigned multiple 21 Α. interests in this Section 2, and there is a question 22 23 over some contractual interest they have from an old JOA 24 wherein at a certain point in time their override 25 converts to a working interest. And so what you see

Page 19 credited to them right now is some of that working 1 2 interest. And the question is whether a couple of those other interests they took over have converted to a 3 working interest. 4 5 Now, I will point out that I had a discussion with Titus this week and discussed that issue 6 7 further, and I believe we're getting closer to an 8 understanding as to that working interest. 9 Okay. Now, those interests in Section 2 are Q. subject to an older JOA; is that correct? 10 11 Correct. Α. 12 Q. And so are they also concerned that they have 13 contractual interests whereby if they ratify the unit 14 and get an operating agreement, their interests 15 terminate under that old JOA? 16 Α. They are concerned with that. However, Chevron does not believe that those interests will terminate. 17 18 Q. Okay. Thank you. 19 Now, as to Mr. McLeod's interest, he owned 20 interest down in Section 14 which is not now part of the 21 proposed unit; is that correct? 22 Α. Correct. 23 I think at one time Chevron proposed the north 0. 24 half of Section 14 as being in the unit? 25 Yes. That was part of the initial plan, and Α.

Page 20 then later on we actually included the southern half of 1 2 Section 14 as well. That's when I actually met with 3 Mr. McLeod and his group in Denver in August of this 4 year. 5 And there are some issues -- maybe it's only in Q. 6 the south half -- about depth severances; is that 7 correct? 8 Α. Correct. Now, at one point -- and there was a -- I'm 9 Q. 10 sure you remember, Mr. Cooper -- a day-long hearing 11 about four months ago about Section 14 and wells in 12 Sections 11 and 14 and to the south of Section 23; is 13 that correct? 14 Α. Yes, sir. 15 Now, at one point Chevron proposed wells from Q. 16 Section 11 down into Section 14; is that correct? 17 Α. Yes, sir. 18 Looking at your Exhibit 7, those plans have Q. 19 been abandoned; have they not? 20 They have been abandoned with the expectation Α. 21 that Chevron completes a trade that is ongoing with EOG, who is the other operator that is -- that is at issue 22 23 with Chevron's plans. So assuming that those trade --24 that trade is finished, then what is shown in the plan 25 of development in Exhibit 7 is what will go forward, and

Page 21 Chevron will then develop two-mile laterals to the south 1 in Sections 14 and 23. 2 So they are, right now, of the expectation 3 that those plans will change, but if something happens 4 5 to go awry with EOG on this trade with them, we will have to rely on an ultimate forced pooling order from 6 7 the Division before we can decide the final production 8 and lateral lengths. 9 And EOG's primary interests are in Section 23; 0. is that correct? 10 11 Yes. Their primary is in Section 23, and then Α. 12 they own part of the Bone Spring Formation in the southern half of Section 14. 13 14 Q. Yeah. Okay. 15 Do you have any timeline on the development 16 of Sections -- assuming you do the deal with EOG, of the 17 timing of any development of Sections 14 and 23? 18 So Chevron right now, the way that we're doing Α. 19 our timing, as shown in Exhibit 7, you'll see 20 development taking place from third quarter of 2018 21 through 2022. Assuming that the EOG trade goes through, we will then include Sections 14 and 23 during our 22 23 Avalon and our Wolfcamp development. That is mainly due 24 to our avoidance of simultaneous operations. We do not 25 want to complete or frac and drill next to each other.

Page 22 So Sections 14 and 23 will allow us to basically jump 1 2 our rig over while continuing to frac on other sections. So 14 and 23 will actually give Chevron more flexibility 3 for our development. 4 And doing the Avalon and -- the Bone Spring, 5 Q. 6 Avalon and the Wolfcamp together, you kind of skip over 7 some of those depth-severance issues; is that correct? 8 Α. Yes. We avoid those by quite a bit of footage there, so the depth-severance issue wouldn't be a 9 10 problem with the Avalon and Wolfcamp A development. 11 0. Thanks, Mr. Cooper. 12 Α. Thank you. 13 Okay. The first thing EXAMINER McMILLAN: is you're going to have an engineer provide an affidavit 14 of the measurement and description. We're not going to 15 16 accept the landman's description --THE WITNESS: Understood. And we can 17 provide that to you. 18 19 MS. BRADFUTE: Mr. McMillan, if I may, we 20 do have an engineer here today. What specifically are 21 you looking for? 22 EXAMINER McMILLAN: Basically, the OCD is 23 not going to accept his description. 24 MS. BRADFUTE: Of? I'm sorry. 25 EXAMINER MCMILLAN: The measurement

Page 23 The measurement, that's not acceptable. 1 description. 2 MS. BRADFUTE: Yes. Okay. 3 EXAMINER McMILLAN: Do you have anything? EXAMINER BROOKS: I don't think so. 4 5 EXAMINER GOETZE: No questions. Thank you. 6 EXAMINER BROOKS: No questions. 7 MS. BRADFUTE: With that, I'd like to call 8 my second witness. 9 FRED VERNER, after having been first previously under oath, was 10 11 questioned and testified as follows: 12 DIRECT EXAMINATION 13 BY MS. BRADFUTE: 14 Q. Could you please state your name for the 15 record? 16 Α. Yes. Fred Verner, with a V. 17 And, Mr. Verner, who do you work for? Q. 18 Chevron. Α. 19 And what is your position at Chevron? Q. 20 I am currently a regulatory advisor, but my Α. 21 background is in geology and geophysics. 22 Q. Okay. And have you previously testified before the Division? 23 24 Α. Yes, I have. 25 Q. And did you testify in the capacity of being a

Page 24 1 geologist? 2 Α. Yes. 3 Q. And were your credentials accepted and made part of the record? 4 5 Α. Yes. 6 Are you familiar with the application filed by Q. 7 Chevron in Case 16436? 8 Α. Yes. 9 And are you familiar with the status of the 0. 10 lands which are included within the Javelina Unit area? 11 Α. Yes. 12 Q. Have you conducted a geologic study of the Bone 13 Spring and the Wolfcamp Formations within the unit? 14 Α. I have. 15 And have you prepared some exhibits as part of Q. 16 your study? 17 I had these exhibits prepared for me. Α. 18 Okay. Thank you. Q. 19 MS. BRADFUTE: I'd like to tender 20 Mr. Verner as an expert witness in geology matters. MR. BRUCE: No objection. 21 EXAMINER McMILLAN: So qualified. 22 23 0. (BY MS. BRADFUTE) Mr. Verner, if you could 24 please turn to Exhibit 10 and could you please identify 25 what this exhibit is?

Page 25 Certainly. This is a type log within the 1 Α. Javelina Unit area. This is the Federal #1. 2 It's located on the small base map on the left-hand side in 3 Section 12. The base map also shows the proposed unit 4 5 area. 6 As far as the tracks for the logs go, we've 7 got a gamma ray on the left side, a resistivity, two 8 density logs on the same track, and then the 9 photoelectric index log on the right. And what you're 10 looking at is all one well, but we have the Bone Spring 11 section displayed on the left side and the Wolfcamp --12 actually, the 3rd Bone and the Wolfcamp section 13 displayed on the right side. 14 And just to confirm, so the log on the left 0. 15 side, which says "upper portion of log," is the Bone 16 Spring log? 17 Yes. Α. 18 And then on the right side of this slide, it Q. says "lower portion of the log," and that's the 19 20 Wolfcamp? 21 Α. Correct, 3rd Bone and Wolfcamp. 22 3rd Bone and Wolfcamp. Thank you. Q. 23 Can you please turn to what's been marked 24 as Exhibit 11? 25 Α. Yes.

Page 26 And could you please identify what this 1 0. 2 document is? This is a basic structure map on the top of the 3 Α. Avalon. It's showing a gentle dip to the east, very 4 5 consistent, no particular really structural items of 6 interest. It's a very gentle and consistent dip across the proposed area. 7 8 Okay. So you haven't identified any faults or Q. pinch-outs or geologic impediments within the unit area? 9 10 Not at all. And I did want to mention that all Α. the control points are also identified on the map as 11 12 well. 13 Okay. And could you please turn to Exhibit 12 0. 14 and walk through this exhibit for the hearing examiners? 15 Α. All right. This is of the same area, but this 16 is an isopach map, a gross isopach, of the Avalon Shale, 17 so basically from the Bone Spring Lime down to the 1st Bone Spring. It's roughly 1,000 feet thick in this 18 19 area. And what the map is really useful for is showing that there is no particular stratigraphic variations in 20 21 thickness across the area. 22 Q. So is it your opinion that the Avalon and the 23 1st Bone Spring sands extend fairly continuously across 24 the unitized area? 25 Yes. But just as a matter of correction, this Α.

Page 27 map does not really refer to the 1st Bone Spring sands, 1 2 only the Avalon. 3 Q. Only the Avalon. Okay. Thank you. 4 If you could please turn to Exhibit 13, did 5 you also prepare a cross section of logs to determine 6 relative thickness and porosity of the Bone Spring 7 Formation? 8 Α. Yes. And if you refer back to either of the maps that we've just looked at, you'll see cross 9 10 sections, A, A prime, which is east-west, and then B, B prime, which is the north-south cross section, and those 11 12 wells are represented here on the cross section. 13 Okay. And Exhibit 13 is your cross section 0. 14 going from A to A prime, correct? 15 Α. That's correct. 16 And could you please explain this cross section Q. 17 to the hearing examiners? 18 Certainly. Again, this is at the top of the Α. 19 cross section. It's hung off the Bone Spring Lime, so 20 the cross section covers the entire Avalon interval down 21 through the 2nd Carbonate to the top of the 3rd Bone. 22 The area of interest -- the zone of interest is really 23 the Lower Avalon, and the target interval is identified 24 by the green dot that you can see on both the left- and 25 right-hand margins.

Page 28 Okay. And so those green dots to the right and 1 Q. 2 to the left on this cross-section diagram show Chevron's 3 targeted interval? 4 Α. That's correct. 5 Do you consider the wells that you included Q. 6 within this cross section to be representative of the 7 Bone Spring Formation within the unit? 8 Α. Yes, they are. Could you please turn to the next exhibit, 9 Q. Exhibit 14? Does Exhibit 14 contain Chevron's cross 10 11 section going from B to B prime? 12 Α. Yes, it does. 13 And could you please explain this document? 0. Well, it's essentially identical to the 14 Α. previous, the east-west one. So this is north-south. 15 16 Again, it's hung off the Bone Spring Lime. The target interval, which is the Lower Avalon, is identified with 17 18 the green dot in both the left- and right-hand margins. 19 Q. Okay. And do you consider the wells that you 20 selected for this cross section to be representative of 21 the Bone Spring Formation? 22 Yes, I do. Α. 23 And, Mr. Verner, what conclusions have you 0. 24 drawn from your geologic study of the Bone Spring 25 Formation in this area?

	Page 29
1	A. Well, what we're seeing in the logs is that the
2	Lower Avalon is fairly consistent and continuous
3	throughout the area without any structural or
4	stratigraphic interruptions along the way.
5	Q. Okay. And have you also prepared a structure
6	map that analyzes the Wolfcamp Formation?
7	A. Yes.
8	Q. Could you please turn to Exhibit 15?
9	A. Yes.
10	Q. Does Exhibit 15 contain that structure map?
11	A. Yes, it does.
12	Q. And could you please explain this document to
13	the hearing examiners?
14	A. Again, very much like the Avalon structure in
15	this area, it's a gentle dip to the east, toward the
16	center of the basin. We're not seeing any particular
17	structural items of interest that would suggest any sort
18	of structural complexity in the area.
19	Q. And so just to confirm, you did not notice any
20	faults, pinch-outs or geologic impediments that would
21	interfere with contribution from the Upper Wolfcamp
22	zones in the unit?
23	A. That's correct.
24	Q. And could you please turn to Exhibit 16 and
25	explain what this map is?

A. This is a gross isopach from what we refer to as the Wolfcamp A to the A2. Again, as we've seen in the other maps, just very slight variation. In fact, across the mapped area, it's probably less than 50 feet in total of variation from one side of the unit to the other.

Page 30

7 ο. Okay. And could you please next turn to 8 Exhibit 17 and explain what this document shows? 9 Again, a gross thickness map from the top of Α. the Wolfcamp A2 to the B zone. It's a fairly thin zone, 10 150 feet, roughly, throughout the area. And, again, the 11 12 wobbles and the contours are probably more a function of 13 slight picks on the logs and do not represent any sort of structural variation or stratigraphic variation. 14

Q. Okay. And did you prepare a cross section of logs to determine the relative thickness and porosity of the Wolfcamp Formation as well?

18 A. Yes. And those cross sections are identified
19 on these maps, now identified as C, C prime and D, D
20 prime.

Q. Could you please turn to Exhibit 18? Does
Exhibit 18 contain the cross section running from C to C
prime?

A. Yes, it does.

25

Q. And could you please explain what this cross

## 1 section shows?

Certainly. Again, this is hung off the top of 2 Α. the Wolfcamp A marker. We've identified our zones of 3 interest with the green bars to the left and right 4 margins. But I would point out that you see two sets of 5 6 bars over there. The upper one, which is at about 7 11,600 to 12,000 feet, that is our target interval for 8 development. The second small bar down in the Wolfcamp 9 A2 is an exploratory target at this time.

Q. Okay. And could you please turn to Exhibit 19?
Is this the cross section that's been prepared running
from D to D prime?

A. Yes. This is the north-south cross section. The annotation is identical to before. And, again, if you look at the two cross sections together, what you'll see is the target intervals are very consistent and continuous throughout the area.

Q. And would you consider the wells that you included in your Wolfcamp cross sections to be representative of the formation?

21 A. Yes, I do.

Q. And what conclusions have you drawn from your
study of the Wolfcamp Formation in the unit area?
A. That it is a fairly predictable, consistent
formation. It makes a very nice target, and it should

Page 32 be fairly easy to develop and productive interval. 1 2 In your opinion, is the granting of 0. Okay. 3 Chevron's application in the interest of preventing 4 waste? 5 Α. Yes, it is. 6 And if you could turn to Exhibit 20, this Q. 7 exhibit explains, at least in part, why producing this 8 area as a unit will minimize waste, correct? 9 Yes, it does. Α. And could you please explain in your own words 10 Q. 11 how waste will be minimized through this unit 12 development plan? Well, this display hits on some, but, you know, 13 Α. some other aspects are sort of implied by it. But our 14 15 development plan consists of pad drilling, extended 16 laterals, as you heard previously, two-mile laterals, and zipper-fracking. I would say the vast majority of 17 operators in the basin would consider these best 18 19 practices for any development area. The idea is that 20 through the zipper-frac process, you are getting a much 21 better completion and a much larger stimulated rock volume through that process. And as such, you are, in 22 23 effect, preventing waste as opposed to, say, drilling 24 one well at a time. 25 Uh-huh. And is it also your opinion that the Q.

Page 33 granting of Chevron's application will protect 1 2 correlative rights? Yes, it will. 3 Α. And will each of the -- will the owners in each 4 ο. committed tract of the unit receive their fair and 5 6 equitable share of production? 7 Α. Yes. 8 Could you please turn to Exhibit 21? Does Q. 9 Exhibit 21 summarize the findings of your geologic study in this case? 10 11 Yes, it does. Α. 12 Q. And, Mr. Verner, were Exhibits 10 through 21 13 prepared by you or compiled under your direction and 14 supervision? 15 Α. Yes, they were. 16 MS. BRADFUTE: I would like to tender 17 Exhibits 10 through 21 into the record. 18 MR. BRUCE: No objection. 19 EXAMINER McMILLAN: Exhibits 10 through 21 20 may now be accepted as part of the record. (Chevron USA, Inc. Exhibit Numbers 10 21 through 21 are offered and admitted into 22 23 evidence.) 24 MS. BRADFUTE: And that completes my 25 questions.

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1	EXAMINER McMILLAN: Cross?
2	CROSS-EXAMINATION
3	BY MR. BRUCE:
4	Q. Just one question, Mr. Verner. When looking at
5	the landman's Exhibit 7, talking about Bone Spring and
6	Wolfcamp development, besides the Avalon, are you
7	looking at 1st, 2nd and 3rd Bone Spring sands?
8	A. Yes.
9	Q. Is that further down the road?
10	A. Yes.
11	Q. Thanks.
12	CROSS-EXAMINATION
13	BY EXAMINER McMILLAN:
14	Q. Okay. So realistically another way of
15	stating Exhibit 20, basically, is you're getting rid of
16	the pressure sinks, right?
17	A. Yes, avoiding them in the first place.
18	Q. And in creating the pressure sinks, you
19	basically create preferred frac directions, right?
20	A. Yes.
21	Q. And you're going to leave stimulated portions,
22	right? That's what you're saying?
23	A. Yes.
24	Q. Okay.
25	MR. BRUCE: I'm sorry. I was just asking

Page 35 my client whether or not he wanted to say something, and 1 2 I can just make a short statement. 3 EXAMINER McMILLAN: Okay. Well, I mean, if 4 he's got something to say, say it. 5 MR. BRUCE: Go ahead. His name is Dan Plazak. He can introduce 6 himself. There is no need to -- he's a geologist, but 7 8 he's not offering expert testimony. 9 MR. PLAZAK: Well, I would just like to say 10 that Douglas McLeod and Petrogulf Corporation is the 11 owner of a lease in the south half of 14 and support the 12 proposal. Even though we're out of the unit, as they've testified, it opens up an opportunity to develop our 13 lease in an efficient manner. Our only concern is that 14 development not be delayed unduly. And that's all I 15 16 have to say. 17 EXAMINER McMILLAN: Okay. Do you have any 18 questions? 19 CROSS-EXAMINATION 20 BY EXAMINER GOETZE: 21 Q. Just one. On your thickness maps --22 Α. Yes. 23 -- so we're just looking at the stratigraphic 0. 24 thickness? We're not making any corrections for total 25 sand or total porosity or the way we use it?

Page 36 Correct. They are just gross thickness. 1 Α. 2 Okay. Thank you. Q. EXAMINER McMILLAN: Go ahead. Do you have 3 4 any questions? 5 EXAMINER BROOKS: No questions. MS. BRADFUTE: With that, we ask that this 6 7 case be taken under advisement. And I can supplement 8 the statement from the engineer via email to you on the 9 measurement. EXAMINER McMILLAN: And the affected 10 11 parties, too. 12 MS. BRADFUTE: And the affected parties. 13 EXAMINER McMILLAN: Do you have any objections to that? 14 15 MR. BRUCE: No objection. 16 EXAMINER McMILLAN: Okay. MS. BRADFUTE: Thank you. 17 18 EXAMINER McMILLAN: Case Number 16436 shall 19 be taken under advisement with the required information. 20 (Case Number 16436 concludes, 10:55 a.m.) 21 (Recess, 10:55 a.m. to 11:09 a.m.) 22 23 24 25

Page 37 1 STATE OF NEW MEXICO COUNTY OF BERNALILLO 2 3 CERTIFICATE OF COURT REPORTER 4 5 I, MARY C. HANKINS, Certified Court Reporter, New Mexico Certified Court Reporter No. 20, 6 7 and Registered Professional Reporter, do hereby certify 8 that I reported the foregoing proceedings in 9 stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that 10 were reduced to printed form by me to the best of my 11 12 ability. 13 I FURTHER CERTIFY that the Reporter's Record of the proceedings truly and accurately reflects 14 the exhibits, if any, offered by the respective parties. 15 16 I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or 17 attorneys in this case and that I have no interest in 18 19 the final disposition of this case. 20 DATED THIS 25th day of October 2018. 21 22 MARY C. HANKINS, CCR, RPR 23 Certified Court Reporter New Mexico CCR No. 20 Date of CCR Expiration: 12/31/2018 24 Paul Baca Professional Court Reporters 25