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

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

CASE NOS: 21275, 21276

IN THE MATTER OF THE APPLICATION OF NOVO OIL & GAS NORTHERN DELAWARE FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF VIRTUAL PROCEEDINGS COMMISSIONER HEARING, VOLUME 2 August 20, 2020 Santa Fe, New Mexico

BEFORE: ADRIENNE SANDOVAL, CHAIRWOMAN JORDAN KESSLER, COMMISSIONER DR. THOMAS ENGLER, COMMISSIONER MIGUEL LOZANO, ESQ.

This matter came on for virtual hearing before the New Mexico Oil Conservation Commission on Thursday, August 14, 2020 through the New Mexico Energy, Minerals, and Natural Resources Department, Webex Platform, Santa Fe, New Mexico.

Reported by: Irene Delgado, NMCCR 253 PAUL BACA PROFESSIONAL COURT REPORTERS 500 Fourth Street, NW, Suite 105 Albuquerque, NM 87102 505-843-9241

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10
11
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Page 4 CHAIRWOMAN SANDOVAL: We will go ahead and get 1 2 started. It's 12:37. We will continue with the Novo and 3 BTA case, we have both counselors. Mr. Bruce, are you 4 there? 5 MR. BRUCE: Madam Chair, Jim Bruce of Santa Fe 6 here for Novo. 7 CHAIRWOMAN SANDOVAL: Ms. Hardy? MS. HARDY: I'm sorry, Dana Hardy for BTA 8 Producers LLC. 9 10 CHAIRWOMAN SANDOVAL: Okay. I believe we finished up with Novo's testimony last week. 11 12 MR. BRUCE: Yes, we did. 13 CHAIRWOMAN SANDOVAL: Okay. We will proceed with 14 Novo and then Mr. Bruce, if you want to present your 15 additional exhibits as rebuttal. MR. BRUCE: Do you want me to put on -- let me 16 ask a procedural deal. Do you want me to put on one of 17 18 my -- or my witnesses with respect to the additional exhibits, or would it be easier for Novo to go through its 19 entire case and then come back and do whatever rebuttal we 20 21 want to do? 22 And I know you said that if we don't finish up 23 today, the case will be continued to November, and Novo 24 understands that, and Novo desires to get all the 25 information to the Commission that it wants or needs, and if

Page 5 it has to be continued, so be it. 1 2 MS. HARDY: BTA's preference would be for Novo to finish presenting its additional exhibits before BTA 3 4 proceeds. 5 CHAIRWOMAN SANDOVAL: Mr. Bruce, do you any 6 objection to presenting your additional exhibits first and 7 then we will move on to Novo -- I'm sorry -- to BTA? 8 MR. BRUCE: No, I spoke with my clients about 9 doing so. 10 CHAIRWOMAN SANDOVAL: Okay. Do you want to call your first witness, Mr. Bruce? 11 12 MR. BRUCE: Yeah, let me dig up my new exhibits 13 here, please. I first call Brandon Patrick. 14 THE WITNESS: Yes, I'm here. 15 BRANDON PATRICK 16 (Sworn, testified as follows:) 17 DIRECT EXAMINATION BY MR. BRUCE: 18 19 Q. And Mr. Patrick, you have been previously 20 qualified as an expert petroleum landman; correct? Is that 21 correct? 22 (No audible response.) Α. 23 Q. Mr. Patrick? 24 CHAIRWOMAN SANDOVAL: I may have inadvertently 25 muted him. Sorry.

1 Okay. You were asked by the Commissioners to 0. 2 sorry -- to submit as Exhibits 29, 30 and 31, could you 3 describe what those are? 4 Α. Yes. Exhibit 29 is an e-mail that I received from Jim Rutley approving the Astrodog development area. 5 Exhibit 30 is a letter from Oxy, the working 6 7 interest owner that is subject to the JOA that BTA is 8 discussing in this case, and Oxy, despite being subject to that JOA, is in full support of Novo and believes that its 9

plan is the best plan to develop this acreage in the most efficient way. Because this is, this is a letter to memorialize Oxy's position that they support Novo and not BTA.

Exhibit 31 is an e-mail from Tom Vandercross. He is the plant manager at United Salt Carlsbad, and United Salt Carlsbad is the surface lessee of the surface around that Salt Lake, and this is relevant to BTA's request initially whenever they were wanting us to move our pad to the east and closer to the lake so we could drill mile and a half wells.

And we told them that that's not on option because of the surface owner and the surface lessee and the potash lessee all object and we protest such a move. This is an e-mail from Tom Vandercross, a week ago, saying that they fully support Novo's proposed pad placement, and I

Page 6

Page 7 believe that's the best plan. So that is -- those are the 1 three exhibits that we provided at the request of the 2 Commission. 3 4 0. And actually, the e-mail from United Salt was 5 received right actually the morning of the August 13 6 Commission hearing date; is that correct? 7 That's correct. Α. 8 And just to refresh my memory, if no one else's, Q. 9 the Salt Lake does cover most of Sections 8 and 9, does it 10 not? That's correct, that's why this is -- Novo's only 11 Α. option is the pads that we are talking about today. 12 We 13 don't have any other options. We are land-locked. There is 14 no other way to access our minerals in 8 or 9 other than 15 drilling from the pad locations that we have shown. So we are limited. This is the only option for us. 16 17 0. And were Exhibits 29, 30 and 31 prepared from company business records? 18 19 Α. Yes. MR. BRUCE: Madam Chair, I would move the 20 admission of Novo's additional exhibits, 29, 30 and 31. 21 22 MS. HARDY: No objection. 23 CHAIRWOMAN SANDOVAL: Commissioners? 2.4 COMMISSIONER KESSLER: No objection. 25 COMMISSIONER ENGLER: No objection.

Page 8 1 CHAIRWOMAN SANDOVAL: Novo's Exhibits 29, 30 and 31 are now entered into the record. 2 (Exhibits Novo 29, 30 and 31 admitted.) 3 4 MR. BRUCE: And I would pass the witness to Ms. Hardy. 5 6 CHAIRWOMAN SANDOVAL: Ms. Hardy, do you have any 7 questions? 8 MS. HARDY: I do have a couple of questions. 9 CROSS-EXAMINATION 10 BY MS. HARDY: 11 Mr. Patrick, on the e-mail from BLM which is Q. 12 Exhibit 29, the approval of the development area was based 13 on -- predicated a part at least on the Division's Order 21252 that's the subject of this hearing; correct? 14 15 Α. I believe that's correct. I mean, literally what he said was that the BLM will cooperate with the NMOCD in 16 observation of NMOCD'S order regarding that development 17 18 area, the Astrodog's development area is being approved. However, I would like to note that it's up to the 19 BLM to decide where the development area is, and they don't 20 have to necessarily just go with whatever the NMOCD decides. 21 If the BLM chooses to do that, but they are not bound to do 22 23 that. So theoretically the BLM could keep the development 24 area the way that it is even if the NMOCD were to vacate 25 Novo's pooling order.

Page 9 But at this point the BLM has stated they 1 0. 2 approved the development area in observation of NMOCD's 3 order 21252; correct? 4 Α. That's correct. 5 Q. Thank you. On Exhibit 30, the letter from Oxy? 6 Α. Yes, ma'am. 7 The letter does not express any opinion that Q. Novo's plan is better than BTA's plan, does it? 8 9 It says in Oxy's opinion, Novo's Astrodog plan or Α. development plans are efficient use of the surface and 10 subsurface. It doesn't mention BTA in here specifically, 11 12 no. 13 When the letter was written in November 2019, Oxy Q. 14 and Novo were in trade discussions in which Novo would 15 acquire Oxy's interest; correct? Oxy and Novo were in trade discussions? 16 Α. Yes. 17 0. We have many discussions with Oxy about trying to 18 do various trades. I wouldn't necessarily say that we were, 19 you know, closing a trade or even had agreed to any 20 particular trade, we were just -- we were talking. 21 This, this letter -- I guess the point is that 22 Oxy was happy being non-op working interest owner in Novo's 23 pooled unit as they are in the non-op interest owner in our 24 Rana Salada unit which we had successfully drilled and they 25 expressed that to us.

Page 10 1 Whenever we were talking to them about getting 2 this letter, they said to us, John Schneider, their land 3 manager, I had conversations with him, he said, "We are 4 happy being a non-op working interest owner in Novo's pooled unit because of their success in -- or our success in 5 6 developing Rana Salada." 7 So this letter has nothing to do with any trade 8 discussions we had, it's simply because Oxy was comfortable 9 with being a non-op working interest owner in the pooled 10 unit, and they thought this was an efficient use of the 11 surface and subsurface. 12 And Oxy hasn't presented any witness to testify; Q. 13 correct? 14 Α. No. 15 MS. HARDY: Those are all of my questions. Thank 16 you. 17 CHAIRWOMAN SANDOVAL: Commissioners, do you have any questions for the witness? 18 19 COMMISSIONER KESSLER: I do not. 20 COMMISSIONER ENGLER: No questions. CHAIRWOMAN SANDOVAL: I have no questions as 21 well. Mr. Bruce, do you have any other witnesses? 22 23 MR. BRUCE: Sorry, I had to unmute myself. I 24 will call Michael Hale, and I may call the engineer, but 25 first I would start off with Michael Hale, the exploration

Page 11 1 manager. 2 CHAIRWOMAN SANDOVAL: Would the court reporter 3 please administer the oath? 4 (Oath administered.) 5 MICHAEL HALE 6 (Sworn, testified as follows:) 7 DIRECT EXAMINATION 8 BY MR. BRUCE: 9 Mr. Hale, do you have Novo's additional 32 in Q. 10 front of you? I do. Α. 11 12 Was this prepared under your supervision and Q. 13 control? 14 Α. It was. 15 And this was the result of, I believe, Q. 16 Commissioner -- one of the Commissioner's requesting data 17 on co-development of the Third Bone Spring and Upper 18 Wolfcamp? That is correct. 19 Α. 20 Could you go through the exhibit and discuss what Q. 21 it shows, and then I will have some follow-up questions with 22 you. 23 A. Yes. 24 I will also ask if you have in front of you --Q. 25 probably ask you some questions on BTA Exhibit 38.

Page 12

A. I have it in front of me.

Q. Okay. Go ahead?

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A. Okay. Starting in Number 2, what is shown here is a location map and you can see in the red is Novo's Astrodog proposed unit. You can see in the same township and range down in the southeastern corner in Section 24, 25, and 36, is the XTO Remuda unit. There that is broken up into XTO Remuda North 25 and XTO Remuda South 25 unit.

9 Both units have eight wells, and if you look at 10 the stratographic column off to the right of that map, what you can see is a plot showing the approximate position of 11 12 those wellbores. I now I want to specify approximate 13 because this is all based off of public survey data. We 14 have not resteered these wells, but based off of our 15 structural control and looking at the survey data points, these are the best representative of their development plan. 16 17 If you go to -- I'm sorry, I should actually point out. As you can see here, there are two wells in the 18 19 Third Bone Spring, two wells within the Wolfcamp XY and four wells within the Wolfcamp A and those are a wine rack 20 21 pattern.

Q. Is that at least similar to Novo's proposal?
A. It is.
Q. Go ahead.

A. So on slide number three what you can see is a

comparative development plan. On the left it is showing the
 same image just seen on the previous slide showing the
 Remuda well location and half section view. And you can see
 the Astrodog proposal.

5 There's not that much of a difference. Really 6 the main difference that we have an extra well in there, so 7 it's nine wells versus eight. You can see how the pattern 8 is quite similar in that it is a wine rack and staggered.

9 The main difference is that instead of doing two 10 benches within the Wolfcamp A our intention is to land low 11 in the Wolfcamp A, and then along the Wolfcamp XY A 12 boundary, and then in the Wolfcamp -- I'm sorry, at the base 13 of the Third Bone Spring to try to maximize the three 14 horizons, maximize the vertical difference between the three 15 horizons as much as possible.

Q. Because there is a -- you know, the vertical separation might not be much, but the horizontal separation is quite substantial, also, is it not?

A. Yes, that's correct. Within each horizon we are looking at approximately 800 feet of horizontal separation, and the closest wells would be the XY and Third Bone Spring wells at approximately 140 feet, but we even toyed with the idea of plotting those wells down just a tiny bit to create a little more vertical separation, and it would effectively be the same exact development plan.

Page 13

Page 14 So this is our proposal as it currently stands. 1 2 You can see there is 220 feet between the Wolfcamp A and XY horizons and 140 between the Wolfcamp XY and Third Bone 3 4 Spring horizons. 5 Okay. And what about Slide 4? Q. 6 Α. So Slide Number 4 is showing the aggregated 7 production from the Remuda north and south units. These 8 are -- the Y axis is in BOE on a 20 to 1 scale per 1000 9 feet. 10 You can see in black is showing the actual average of all the wells production. The blue dashed line 11 12 is an aggregated type curve using the -- using the wells 13 that were included, the two Third Bone Spring wells, the two 14 XY wells, and four Wolfcamp A wells, and the number there 15 120 BOE per foot is the EUR on a per-foot basis. What you can see is that it's broken up between 16 17 Remuda North on the top and Remuda South on the bottom. You can see that the Remuda North actual production is just 18 slightly below the type curve, and the Remuda South 19 production is just slightly above the type curve. These 20 have been grouped together for our analyses, but shown 21 22 separately here. On slide --23 Α. 24 Q. Is that all you have on this one? 25 Α. I'm sorry.

1

Q. No, go ahead.

A. Moving on to Slide 5, what this is showing is
cumulative production comparison of the Ogden versus Remuda.
The Ogden was chosen really because it was specifically
referenced by BTA. I want to point out that this was just
noticed this morning, and I'm sorry, it was an oversight,
but the two images are labeled incorrectly.

8 So in gray, the title box for each one, the top 9 one says total cumulative production, that should read 10 average cumulative production, whereas, the bottom graph 11 should read total cumulative production, so I'm sorry about 12 that. But if you actually read the text box in yellow it 13 actually is accurate in what it's describing.

14 And so really I think the main thing to take away 15 here will be the bottom image. And the reason I'm not going to focus on the top image is I realize that BTA had an issue 16 with that, and I don't necessarily disagree with their 17 complaint, although I will get to that -- I will talk a 18 little bit about that more specifically in just a second. 19 But if you look at the total cumulative 20 production for BTA's Ogden versus XTO's Remuda, that's the 21 bottom graph, what you can see is huge Delta between the sum 22 23 of hydrocarbons that have been produced from Remuda unit 24 versus the Oqden. 25 We think the Oqden is actually a very good

Page 16 analogue because it's geologically analogous, and we 1 normalize it into a mile and a half, and you can see how --2 3 like I said, that delta is pretty significant. 4 If we were to actually reference BTA's Exhibit 38, I think it allows us to put some numbers to it. So if 5 6 it's okay, I will reference that very specifically. 7 So if you look at BTA's Exhibit 38 which was 8 designed to counter Novo's -- I don't think it countered it, I think this helped our argument because it allowed us 9 10 to take a time slice and put actual numbers here. So if we were to draw a vertical at the 500 day mark, what you can 11 12 see is, for the Ogden, which is the blue line on here, we 13 can say, on average -- or not average -- that well looks 14 like it's about 38 barrels per foot production at the 500 15 day mark. If we were to take either one of those Remuda 16

17 ones, it doesn't matter, if we combine them to an average we 18 get about 31 barrels per foot production. If you multiply 19 that by the number wells in the unit, you can check me if 20 you want, but I have done the math, if you were to take the 21 38 barrels per foot of the two Ogden wells and multiply that 22 by the number of wells in that unit, what you get is 76 23 barrels per foot.

24 Whereas, if you take on average the 31 barrels 25 per foot from the Remuda unit and you multiply that times

eight, what you wind up with is 248 barrels per foot, which 1 2 is a difference of 172 barrels per foot. If we were to turn that into actual barrels of oil, that is a difference of 3 4 570,000 barrels of oil produced by BTA or produced under BTA's proposed plan of two wells developing this reservoir, 5 versus 1.86 million barrels of oil produced by the XTO 6 That is a difference of -- let me make sure I've 7 Remuda. 8 got this right -- sorry. Yeah, that's a difference of 1.3 9 million barrels.

10 So, you know, I understand that their argument is 11 that capital efficiency, you can drain this well or you can 12 drill fewer wells and have higher EURs, but that's not 13 actually -- that's not Novo's argument at all. Novo's 14 argument is that it's wasteful to only try to develop this 15 720-foot thick, three-bench flow unit with two wells. And I 16 think that this XTO Remuda data unequivocally confirms that.

Q. So you have to look not only at the production per well, you have to look at all the wells out there and the reservoirs they are draining. Is that a simple way to put it?

A. That's exactly right. It's more than just single well economics. You can do it in a couple of different lights. You can look at your single well economics or look at your project economics, and I think Novo has shown here our goal is on the large scale. We are big picture thinkers

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1 in this.

2	Q. And when you're and that is the reason,		
3	getting back to something you testified to before, that Novo		
4	has got out and filed a number of AFEs so it could properly		
5	drill the reservoir.		
6	A. That's exactly right, yeah. I mean, essentially		
7	what I'm saying is, Novo intends to be aggressive, we feel		
8	that XTO has already laid the framework for us to do this		
9	and justify it. We have higher nets so we feel confident.		
10	But essentially, if BTA develops this at two wells per		
11	section, they will waste this reservoir. They will waste		
12	1.3 million barrels of oil that could be recovered		
13	otherwise.		
14	Q. That's a lot.		
15	A. Yes, that is a lot.		
16	Q. Do you have anything else to say with respect to		
17	this exhibit, Mr. Hale?		
18	A. I do not.		
19	CHAIRWOMAN SANDOVAL: Madam Chair, I move the		
20	admission of Novo's additional Exhibit 32.		
21	MS. HARDY: No objection.		
22	CHAIRWOMAN SANDOVAL: Commissioners, any		
23	objection?		
24	COMMISSIONER ENGLER: No objection.		
25	CHAIRWOMAN SANDOVAL: Novo Exhibit 32 is now		

Page 19 admitted into the record. 1 (Exhibit Novo 32 admitted.) 2 3 MR. BRUCE: And that concludes my case with 4 respect to the additional exhibits, Madam Chair. 5 CHAIRWOMAN SANDOVAL: Thank you. Ms. Hardy, do 6 you have questions? 7 MS. HARDY: Just a couple of questions, Madam 8 Chair. 9 CROSS-EXAMINATION 10 BY MS. HARDY: 11 Q. Good afternoon, Mr. Hale. 12 Α. Good afternoon. 13 Q. Novo's plan isn't identical to Remuda's; correct? 14 A. Correct. It's similar. 15 And Novo proposes one more well than is included Q. 16 in Remuda? A. That is correct. 17 18 And isn't Remuda the most densely drilled in the Q. 19 area at this point in time? It is. 20 Α. Thank you. Those are all my questions. 21 Q. 22 CHAIRWOMAN SANDOVAL: Thank you. Mr. Bruce, do 23 you have any additional questions? 24 MR. BRUCE: No, I do not. Thank you. 25 CHAIRWOMAN SANDOVAL: Do you have any other

Page 20 1 witnesses? 2 My apologies, Commissioners, do have you 3 questions? 4 COMMISSIONER KESSLER: I don't. 5 COMMISSIONER ENGLER: No. 6 CHAIRWOMAN SANDOVAL: Now, Mr. Bruce, do you have 7 any additional witnesses? 8 MR. BRUCE: No, I may -- I may have, depending on 9 BTA's testimony, I may have some rebuttal testimony, but at 10 this point that's, that's -- that's the end of Novo's direct case. And so BTA may proceed. 11 12 CHAIRWOMAN SANDOVAL: Thank you. Ms. Hardy, 13 would you like to call your first witness? 14 MS. HARDY: Yes, I would. BTA calls Willis 15 Price. 16 WILLIS PRICE 17 (Sworn, testified as follows:) DIRECT EXAMINATION 18 BY MS. HARDY: 19 20 Good afternoon, Mr. Price. Q. 21 Α. Good afternoon. 22 Q. Can you please state your full name? Willis Price. 23 Α. 24 Where do you reside? Q. 25 Α. Midland, Texas.

Page 21 1 By whom are you employed and in what capacity? Q. 2 Α. BTA Oil Producers LLC as the land manager. 3 Do your responsibilities include BTA's 0. 4 development of what it calls the Ochoa acreage? 5 Α. Yes. 6 0. Does the Ochoa acreage include the NW/4 of 7 Section 8 that Novo seeks to pool? 8 Α. Yes. 9 Are you familiar with the land matters that Q. pertain to Novo's application? 10 Α. 11 Yes. 12 Have you previously testified at a Commission Q. hearing? 13 14 Α. Yes. 15 Were your credentials as an expert in petroleum Q. 16 land matters accepted? 17 Α. Yes. MS. HARDY: Madam Chair, I tender Mr. Price as an 18 expert in petroleum land matters. 19 20 MR. BRUCE: I have no objection. 21 CHAIRWOMAN SANDOVAL: Thank you. 22 COMMISSIONER KESSLER: No objection. 23 COMMISSIONER ENGLER: No objection. 24 CHAIRWOMAN SANDOVAL: Mr. Price is an expert in 25 the field. Thank you.

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1 MS. HARDY: Thank you. BY MS. HARDY: 2 3 Mr. Price, how long has BTA been operating in New 0. 4 Mexico? BTA was found the in early '50s in Midland, 5 Α. Texas, and there's second, third and fourth generation 6 members of the family that actively work in the day-to-day 7 8 operation. We have been involved operating in New Mexico 9 since the early 1960s. 10 Q. How many horizontal wells has BTA completed in 11 New Mexico? 12 Α. 80. 13 Q. How many horizontal wells has BTA completed in 14 Eddy County? 15 Α. 14. 16 Is BTA a successful experienced operator in New Q. 17 Mexico? 18 Α. Yes. 19 Q. Is BTA an experienced multi well pad operator? 20 Α. Yes. 21 Q. Is BTA actively drilling in the Delaware basin in 22 New Mexico? 23 Α. Yes, we are. 24 How many rigs does BTA currently have operating Q. 25 in New Mexico?

Page 23 1 Α. We have two. 2 And does BTA have an active frac fleet in New Q. 3 Mexico currently? 4 Α. Yes. 5 Is BTA currently completing the wells it is Q. 6 actively drilling in New Mexico? 7 Yes, we are. Α. 8 Mr. Price, I would like for you to look at BTA Q. 9 Exhibit 1. Yes. 10 Α. 11 Do you have that in front of you? Q. 12 Α. Yes, I do. 13 I'm going to try to share my screen here. Q. There. 14 Can you see that on the screen. 15 Α. Yes. CHAIRWOMAN SANDOVAL: Yeah. 16 17 Q. I'm sorry, could you please identify that exhibit? 18 This is an exhibit of BTA's (unclear) in the 19 Α. Loving, New Mexico area. 20 21 Q. And was that exhibit prepared under your 22 direction and supervision? 23 A. Yes, it was. 24 Q. And does it show BTA's acreage in the area 25 surrounding the Ochoa acreage?

Page 24 1 Α. Yes. It does. 2 And where is the Ochoa acreage. The Ochoa Q. 3 acreage is in the N/2 of 7 and the NW/4 of Section 8 in 4 Township 23 South, Range 29 East. 5 Q. How many acres does it include? 6 Α. 474.11 acres. 7 Is the Ochoa acreage subject to a joint operating Q. 8 agreement? 9 Yes, it is. Α. 10 Q. What is the blue acreage shown on the map? Blue acreage is BTA-operated acreage. 11 Α. 12 And what is the blue crosshatched area? Q. 13 Α. The crosshatch is BTA non-operated acreage. 14 Is BTA new to operating in this area? 0. 15 Α. No. 16 What property on this map did BTA develop first? Q. 17 Α. The Pardue lease. 18 And when was that? Q. It was in the late 1980s. 19 Α. 20 And is that property approximately 1.5 miles west Q. 21 of Ochoa? 22 Yes, it is. Α. 23 Mr. Price, I would like you to look at BTA Q. 24 Exhibit 2. Do you see the one on your screen? 25 Α. Yes, I do.

Page 25 1 Was this exhibit prepared under your direction Q. 2 and supervision? 3 Α. Yes, it was. 4 0. Can you describe what it shows? 5 This shows the acreage position of BTA, Novo and Α. 6 Marathon around the Ochoa acreage. 7 And BTA's leasehold rights are under a voluntary Q. 8 operating agreement; is that right? 9 That's right. Α. 10 Q. Is BTA the designated operator under the JOA? Yes. 11 Α. 12 And does the JOA control 100 percent of the 0. acreage that it covers? 13 14 Yes, it does. Α. 15 Does BTA have to file a pooling application to Q. 16 develop its acreage under the JOA? 17 Α. No. 18 Q. Why not? Because the parties have voluntarily agreed to 19 Α. operate under the joint operating agreement. 20 21 Q. And Marathon and Novo each seek to pool BTA's JOA 22 acreage; correct? 23 Α. Yes, they do. 24 Q. And can you show on the map or tell us which 25 acreage Novo seeks to pool?

Page 26 Novo seeks to pool the NW/4 of Section 8. 1 Α. 2 Did you hear Mr. Patrick's testimony last week Q. 3 regarding the title issues in Sections 8 and 9? 4 Α. Yes, I did. 5 Can you explain what happened there? Q. 6 Α. BTA and TDY were in a quiet title suit that 7 covered that acreage in the area. And so it covered the 8 NE/4 of Section 8 and the N/2 of Section 9 among other land. 9 And was that lawsuit resolved? Q. 10 Α. It was -- it was settled. 11 So TDY did not prevail in the lawsuit, is that Q. 12 correct, it was settled? That's correct, it was settled. And TDY wound up 13 Α. 14 with an assignment of the acreage in the north, NE/4 of 15 Section 8 and the N/2 of 9 among other lands, and then BTA was assigned the interest about a mile south in our Haroun 16 ranch area where we had other -- another acreage position 17 that we (unclear). 18 19 Q. Mr. Price, let's look at your Exhibit 3. Can you 20 please identify that exhibit? Yes. It's the time line of the events that 21 Α. occurred on the Ochoa acreage. 22 23 Q. Was the time line prepared under your direction 24 and supervision? 25 Α. Yes.

Page 27 1 Since the Commissioners previously heard 0. 2 testimony regarding a similar time line in the Marathon 3 cases, I would like to just talk about some of the 4 significant events that are listed on this time line. Is it 5 correct that BTA acquired its interest in the Ochoa acreage 6 on November 1, 2018? 7 That's correct. Α. 8 And then looking at Page 2 of your time line, did Q. 9 BTA have its onsite with the BLM on May 16 of 2019? 10 Α. Yes. 11 ο. And BTA filed its APDs with the BLM on June 26 --12 Α. That's correct. 13 -- if 2019? And did BTA submit its well Q. 14 proposals on July 8 of 2019? 15 Α. Yes. 16 And then after those events occurred, Novo Q. 17 acquired its interest on July 25 of 2019; is that right? Α. 18 Yes. 19 Q. And then Novo proposed its wells on July 29 also? Yes. To summarize, is it correct that BTA had 20 Α. acquired its interest under the JOA approximately eight 21 months before Novo proposed its wells? 22 23 Α. Yes, it is. 24 And that BTA had its onsite meeting with BLM, Q. 25 filed its APDs, and submitted well proposals before Novo

Page 28 1 proposed its wells? 2 Α. Yes. 3 Did BTA meet with Novo in Oklahoma City? 0. 4 Α. Yes, I did. 5 And is that reflected on your time line, the Q. 6 bottom of Page 2? 7 Yes, it is. Α. 8 And that was on September 5 of 2019? Q. 9 That's correct. Α. 10 Q. Did BTA initiate the meeting with Novo? Yes. 11 Α. 12 Did you travel to Oklahoma City for that meeting? Q. 13 Α. I did. 14 Okay. Did you hear Mr. Patrick's testimony last 0. 15 week that at that meeting Novo invited BTA to its onsite 16 meeting with BLM? 17 Α. Yes. 18 Was Novo required to give BTA notice of the Q. 19 onsite because BTA was an affected party? 20 Yes, they were. Α. 21 Q. And Novo sent notice of its Astrodog development 22 area after the Division heard Novo's pooling application 23 last November; is that correct? 24 Α. Yes. 25 Q. And is that reflected on Page 3 of your time

Page 29 1 line? 2 Α. Yes, it is. 3 Have Novo's APD's been approved? 0. 4 Α. They have not. I spoke with Jim Rutley, and he indicated to me they were -- the APDs would not be approved 5 6 until this hearing is finalized. 7 MR. BRUCE: Excuse me. You kind of cut out, Mr. Price. Could -- Mr. Price, you kind of cut out a 8 9 little bit and I could not hear your answer to that 10 question. THE WITNESS: The answer was that I spoke to Jim 11 Rutley with the BLM, and he indicated that the APDs would 12 13 not be approved until this pooling hearing is finalized. 14 MR. BRUCE: Thank you, Mr. Price. 15 Mr. Price, you were referring to Novo's APDs; 0. 16 correct? 17 That's correct. Α. 18 Okay. Mr. Price, can you please look at Exhibit Q. 19 4? 20 Α. Yes. 21 Can you please identify that exhibit? Q. It shows the Bone Springs spacing unit around the 22 Α. 23 Novo acreage. 24 Was the exhibit prepared under your direction and Q. 25 supervision?

		Page 30	
1	Α.	Yes. In conjunction with Jose Baltier at our	
2	direction.		
3	Q.	Does it show the development surrounding BTA's	
4	Ochoa acre	age?	
5	Α.	Yes, it does.	
б	Q.	Were the units on the map formed in a way so they	
7	did not interfere with the JOA governing the Ochoa acreage?		
8	Α.	Yes.	
9	Q.	Has BTA proposed wells in its Ochoa acreage?	
10	Α.	We have.	
11	Q.	And are those Fave 1 wells?	
12	Α.	Yes, they are.	
13	Q.	How many are there.	
14	Α.	So we proposed four mile and a half lateral	
15	Wolfcamp wells.		
16	Q.	And just to be clear for the record, the Ochoa	
17	acreage is	in the blue box on your Exhibit 4; correct?	
18	Α.	That is correct.	
19	Q.	In addition to those four one and a half mile	
20	lateral Wo	lfcamp wells, does BTA have plans for further	
21	developmen	t of the Ochoa acreage?	
22	Α.	Yes, we do, additional Bone Spring and Wolfcamp	
23	wells.		
24	Q.	And why hasn't BTA proposed those wells at this	
25	time?		

Page 31 We are waiting for the resolution of this pooling 1 Α. 2 and the development -- the approval of the development area. 3 And does the election period under the JOA also 0. 4 impact well proposals for BTA? 5 Α. Yes, it does. We need to drill the four wells 6 before we propose additional wells under the JOA. 7 Okay. And, Mr. Price, can you please look at Q. 8 BTA's Exhibit 5. 9 Α. Yes. 10 Can you identify that exhibit, please? Q. This is the Yates Petroleum Company or 11 Α. 12 corporation operating agreement that governs the Ochoa 13 acreage. 14 Is it a true and correct copy of the Yates JOA? 0. 15 Α. Yes, it is. 16 Q. And what is the date? 17 January 1 of 1987. Α. 18 Does the JOA cover all intervals underlying the Q. 19 N/2 of Section 7 and the NW/4 of Section 8? Yes, it does. 20 Α. 21 Was BTA's acquisition of the interest covered by Q. 22 the JOA effective on November 1 of 2018? 23 Α. Yes. 24 Why did BTA acquire its interest and become the Q. 25 operator under the JOA?

Page 32 Because we are familiar with the area, as I 1 Α. 2 pointed out, and on Exhibit 1 we have leaseholds within that area, and so we wanted to develop this Ochoa acreage as the 3 4 operator. 5 Are the operating rights under the JOA valuable Q. 6 to BTA? 7 Yes, they are. Α. 8 Why is that? Q. 9 Because we want to take advantage of our Α. 10 experience in the area and our ability to control the number of wells drilled in the -- to be able to manage the costs 11 12 and to carry out the economic development of a project on 13 this Ochoa acreage. 14 In your opinion, do joint operating agreements 0. 15 facilitate development and conservation of resources? Yes, they do. 16 Α. 17 0. Why? 18 Because, again, you can control costs, determine Α. 19 the most productive development plan without opposition that we would have in a pooling application. 20 21 Q. What is the breakdown of the working interest 22 governed by the JOA? 23 Α. BTA owns 82 percent and Oxy Y-1 company 18 24 percent. 25 Is 100 percent of that interest committed to and 0.

Page 33 governed by the JOA? 1 Yes, it is. 2 Α. 3 Did BTA enter into a trade with Oxy to increase 0. 4 BTA's ownership interest under the JOA? 5 Α. We did. 6 And what was the acreage involved? 0. It was -- it was an additional 40 acres under the 7 Α. 8 JOA, and so we -- we now own approximately 387 acres of it. 9 Did you review Novo Exhibits 4 and 15? Q. 10 Α. Yes, I did. 11 And were those Novo's exhibits that identified Q. 12 the ownership interest and the acreage that Novo seeks to 13 pool? 14 I don't believe they were. No, they were not. Α. 15 Do you have those exhibits in front of you? Q. Yes. 16 Α. 17 0. Do the exhibits correctly reflect BTA's ownership 18 interest? 19 Α. They do not. They show BTA with 18 percent, and after the transaction we should have 20 (unclear) percent. 20 21 Q. Would it be correct to say that BTA is the 22 operator of 100 percent of the working interest in the Ochoa 23 acreage? Α. 24 Yes, that's correct. 25 Mr. Price, let's look at your Exhibit Number 6, 0.

Page 34 1 please. 2 Α. Yes. 3 Can you identify that exhibit? 0. 4 Α. That is the ratification of the operating agreement. 5 6 0. Is this a true and correct copy of the agreement? 7 Yes, it is. Α. 8 What does it show? Q. 9 It shows that Oxy Y-1 company ratified the JOA Α. 10 naming BTA as operator of the Ochoa acreage. 11 Q. And what date did Oxy ratify the joint operating 12 agreement and BTA as operator? 13 Α. It's effective November 1 of 2018. 14 Mr. Price, can you please look at Exhibit 7? 0. 15 Α. Yes. 16 Can you identify that exhibit, please? Q. That is a letter agreement between BTA and Oxy 17 Α. 18 Y-1 Company. 19 Q. Is that document BTA's well proposals? Oh, I'm sorry. Excuse me, I'm sorry. In 20 Α. Exhibit -- I'm sorry, Exhibit 7 are well proposals -- are 21 the four well proposals from BTA to Oxy Y-1 Company. 22 23 Q. When were those proposals sent? 24 Α. July 8 of 2019. 25 Do they include AFEs? 0.

Page 35 They do. 1 Α. 2 Q. Do they include a map of the proposed wells? They do. 3 Α. Will the four Wolfcamp wells be drilled and 4 ο. 5 completed in the N/2 of Section 7 and NW/4 of Section 8? 6 Α. Yes, they will. 7 Will the completed laterals be in the potash Q. 8 area? 9 Yes, they will. Α. 10 Q. Will the well pad for the wells also be located 11 in the potash area? No, it won't. 12 Α. 13 Has BTA received BLM approval for the pad 0. locations of the four wells? 14 15 We have. Α. 16 Because the completed laterals will be in the 0. 17 potash area, was BTA required to notify Mosaic Potash? 18 Α. Yes, we were. 19 Q. Did BTA provide that notification? We did. 20 Α. 21 Has BTA received any negative feedback from 0. 22 Mosaic? 23 No, we have not. Α. 24 Q. Has BTA submitted a proposed development area to 25 the BLM for the four Wolfcamp wells?

Page 36 1 Α. Yes, we have. 2 What's the status? Q. 3 The status is, Novo objected and -- to the Α. 4 development area, and we are waiting on a resolution hearing. Has BTA submitted APDs to the BLM for the four 5 Wolfcamp wells? 6 7 Yes, we have. Α. 8 What's the status of that submission? Q. 9 The status is we are waiting on the resolution of Α. 10 this hearing and the approval of the development area. 11 Q. Is BTA planning to propose additional 1.5 mile 12 Wolfcamp and Bone Spring wells in the N/2 of Section 7 and 13 NW/4 of Section 8 to Oxy? 14 Yes. Α. 15 Mr. Price, can you please look at Exhibit 8? Q. Exhibit 8, yes. 16 Α. 17 Q. Can you identify that exhibit, please? 18 Α. This is a letter agreement between BTA and Oxy 19 Y-1 Company. 20 Is Exhibit 8 a true and correct copy of the Q. 21 letter? Yes, it is. 22 Α. 23 What does the letter provide? Q. 24 Α. The letter provides that Oxy will be provided an 25 election 30 days from the date they receive approved APDs on

Page 37 the four -- on the four wells proposed. 1 2 Mr. Price, can you please look at Exhibit 9, and Q. 3 I will try to put that up on the screen here. Can you please identify that exhibit. 4 5 Α. Yes. It's the same exhibit as the Bone Spring spacing unit outline and then the blue box is the Ochoa 6 7 acreage that have Wolfcamp wells on it. 8 0. Those are the four wells that BTA has already 9 proposed? Α. 10 Yes. 11 Was the map prepared under your direction and 0. 12 supervision? 13 Α. It was, and in conjunction with Jose Baltier at 14 our address. And I think you already said the map shows the 15 Q. 16 current development area along with BTA's four proposed 17 wells; right? 18 That's right. Α. 19 Mr. Price, let's talk about BTA's negotiations Q. 20 with Novo. Did Novo contact BTA prior to acquiring its 21 acreage to ask about BTA's interest under the JOA? 22 Α. No. 23 And BTA met with Novo in Oklahoma City to talk Q. 24 about the Astrodog development; is that right? 25 That's right. Α.

	Page 38
1	Q. During those discussions was Novo informed about
2	BTA's plans for development of its Ochoa acreage?
3	A. Yes.
4	Q. In your opinion, did BTA try to find a solution
5	that would work for both BTA and Novo?
6	A. Yes.
7	Q. Was that effort successful?
8	A. No.
9	Q. Instead of continuing negotiations with BTA, did
10	Novo instead protest BTA's development area?
11	A. Yes.
12	Q. Mr. Patrick testified last week that BTA went
13	behind Novo's back in discussion with the BLM. Did you hear
14	that testimony?
15	A. Yes, I did.
16	Q. Is that correct?
17	A. No.
18	Q. Did you agree to only speak with the BLM jointly
19	with Novo?
20	A. No.
21	Q. Did you believe you were working with BLM for the
22	mutual benefit of BTA and Novo?
23	A. Yes, from my meeting in Oklahoma City, Novo
24	indicated they were agreeable to a mile and a half
25	development plan if we were able to if they were able to

Page 39 agree on a location that would allow that to happen, and I 1 was trying to make that happen. 2 3 Does BTA own record title to the acreage you were 0. 4 discussing with the BLM? 5 Yes, we do. Α. 6 0. Did you hear Mr. Patrick's testimony last week 7 that BTA told Novo it would object to Novo's other 8 development plans in the potash area? 9 Α. Yes. 10 And has BTA told Novo that it would do that? ο. 11 Α. Yes. 12 Why was that? Q. 13 Because the development area within the potash Α. area, it's like a gigantic tetris puzzle, and we indicated 14 15 to them that we would, we wanted to resolve the development area on our Ochoa acreage and their Astrodog (unclear) the 16 17 other development area within the potash area. 18 Q. Did BTA withdraw its objection to Novo's proposed 19 development areas other than the area involving the acreage 20 addressed in these cases? Yes, we did. 21 Α. 22 ο. To summarize the negotiations between BTA and 23 Novo, has Novo proposed any alternative that would recognize 24 BTA's correlative rights in the N/2 of Section 7 and the 25 NW/4 of Section 8?

Page 40 They have proposed a trade, but BTA does not feel 1 Α. 2 like it recognized the true value of our operator rights in 3 the Ochoa acreage. 4 0. In your opinion, has Novo made a good faith effort to resolve a conflict between BTA's development of 5 6 its Ochoa acreage and Novo's proposed wells? 7 Α. No. 8 Mr. Price, if Novo's applications are granted, Q. 9 will they block BTA's proposed one and a half mile lateral? 10 Α. Yes. 11 In your opinion, would the granting of Novo's Q. 12 application result in impairment of BTA's operating rights 13 under the JOA? 14 Α. Yes. It would obliterate them. 15 In your opinion, are BTA's operating rights part 0. 16 of its correlative rights? 17 Α. Yes. 18 Q. And why? 19 Α. Because we acquired this acreage under the JOA to operate, and operate -- operating rights are very valuable 20 21 to us. 22 MS. HARDY: I have no further questions at this time, Madam Chair. I moved the admission of BTA exhibits 1 23 24 through 9? 25 MR. BRUCE: I have no objection.

Page 41 1 CHAIRWOMAN SANDOVAL: Any objection from the Commissioners? 2 COMMISSIONER ENGLER: No objection. 3 4 CHAIRWOMAN SANDOVAL: BTA Exhibits 1 through 9 are admitted into the record. 5 6 MS. HARDY: Thank you. 7 (Exhibits BTA 1-9 admitted.) 8 MR. BRUCE: Mr. Price --9 CHAIRWOMAN SANDOVAL: Proceed on cross, Mr. 10 Bruce. MR. BRUCE: What's that now? 11 12 CHAIRWOMAN SANDOVAL: Please go ahead if you have 13 any cross. 14 MR. BRUCE: Thank you. 15 CROSS-EXAMINATION BY MR. BRUCE: 16 17 Q. Let's look at your exhibit -- let's look at your Exhibit 2, Mr. Price. 18 19 Α. Yes. 20 Now, you mentioned the quiet title suit between Q. 21 BTA and TDY. When did -- obviously BTA had a title claim 22 to the land that is now owned by Novo in Sections 8 and 9; is that correct? 23 24 Α. Yes. 25 Q. And that was based on a deed from US Borax

Page 42 Company, I believe? 1 2 Α. Yes, it was. 3 When was that deed executed or acquired from --0. 4 by you -- by BTA? Excuse me. 5 I believe, I believe it was in November of 2017. Α. 6 0. 2017? Yes, sir. 7 Α. 8 And it covered several sections of land, I don't Q. 9 remember how much, but it did cover several sections of 10 land, did it not? Α. 11 Yes. 12 And as you said, that lawsuit was settled. 0. Was 13 that settled more or less in early to mid July of 2019? 14 I believe that's correct. Α. 15 And so up until that time BTA had a claim to what 0. 16 is now Novo's acreage in NE/4 of Section 8 and N/2 of 17 Section 9? 18 Α. Yes. 19 Q. And you had acquired the -- what we -- you know, 20 the Ochoa JOA, you had acquired the Yates interest in that JOA in late 2018? 21 22 November of 2018, yes. Α. 23 And so once you acquired that in November or Q. 24 December 2018, you could have proposed your wells in the 25 Ochoa acreage at that time, could you have not?

Page 43 1 Α. We could -- we could have, yes. 2 Q. But you waited until after the lawsuit was 3 settled with TDY in July of 2019; is that correct? 4 Α. Yes. 5 Did BTA have plans to develop the NE/4, or at Q. 6 least preliminary plans or thoughts about developing the 7 NE/4 of Section 8 and the N/2 of Section 9 within this area? 8 Α. We did when we were -- our development plan was 9 to develop it in the same manner where we were talking to 10 Novo about developing their (unclear). 11 Q. You mean -- I didn't quite get everything, but 12 are you saying that you would have developed the Sections 8 13 and 9, the NE/4 of 8 and the N/2 of Section 9 like you are 14 now wanting to Novo to do? 15 MS. HARDY: Object to the form. I think it misstates his testimony. 16 MR. BRUCE: Well, I said -- I didn't ask it. 17 Had -- let me rephrase it then, Madam Chair. 18 19 Q. Did BTA consider developing the NE/4 of Section 8 20 and the N/2 of Section 9 in conjunction with the NW/4 of 21 Section 8? 22 We did not at the time. Yes, we did not. Α. 23 So you would have considered drilling wells with 0. 24 a half a mile of dead hole and all the other concomitant 25 problems to develop the NE/4 of Section 8 and N/2 of

Page 44 1 Section 9? 2 MS. HARDY: I object to the form of the question. CHAIRWOMAN SANDOVAL: In what --3 4 MR. BRUCE: Well, this is cross-exam. 5 CHAIRWOMAN SANDOVAL: What's your issue with the form? 6 7 MS. HARDY: It's assuming problems with the 8 development of a dead hole that I think other witnesses are 9 addressing. 10 CHAIRWOMAN SANDOVAL: Then the witness can testify whether or not that should be addressed by somebody 11 12 else. Mr. Bruce? 13 But again, in early July of 2019, you still had Q. 14 not submitted your proposed wells on your JOA acreage; 15 correct? Could you rephrase the question, please? 16 Α. 17 0. As of early say the first or second week of July 18 2019, you had not sent out your well proposals under your 19 Ochoa JOA? We sent them out on July 8. 20 Α. 21 Q. And a few days after that -- and negotiations had 22 been ongoing, this didn't occur suddenly, the negotiations 23 between TDY and BTA had been ongoing probably for several 24 months to resolve the lawsuit? 25 Α. Yes, the lawsuit was ongoing until we settled in

Page 45 1 July of 2019. 2 So -- so right about the time you settled the Q. 3 lawsuit with TDY, that's when you sent out your well 4 proposals? 5 Α. Yes. 6 0. Let me ask you this also: Did you have a dispute 7 with Novo regarding development of some acreage immediately 8 to the north? 9 Α. We negotiated with Novo, yes. 10 And that's four and five immediately to the north ο. 11 of Sections 8 and 9? 12 Α. Yes. 13 And it's already been mentioned, shown in your Q. 14 exhibits and others, that there was a COG well, north-south, 15 Second Bone Spring in Sections 5 and 8, or I forget exactly, 16 but it runs through that. Is that correct? 17 Α. Yes. That's correct. And you asked, as part of the settlement with 18 Q. 19 Novo because of your competing plans, that they not drill 20 north-south into the Second Bone Spring in Section -- in the NE/4 of Section 8. Is that correct? 21 22 That's correct. Α. 23 And that was about two years ago where you signed 0. 24 a letter, and so did Novo, saying that Novo would not drill 25 north-south into the E/2 E/2 of Section 8.

Page 46 I would have to look at the dates but that --1 Α. 2 Q. So you were looking at drilling east-west wells 3 into the NE/4 of Section 8 in the Bone Spring formation? 4 Α. No, I don't recall. 5 And I -- I might have asked you some questions Q. 6 here, Mr. Price, that maybe should be better answered by 7 your engineers, and if I do, I apologize, you can just tell 8 me to talk to the other folks on your side. 9 But first let's get to this: When BTA acquired 10 its interest in the Ochoa JOA, did you know you had to get a 11 development area for the proposed Ochoa wells? 12 Α. Yes. 13 Didn't you drill wells over in Sections 17 and Q. 14 20, your Haroun Ranch wells without a development area? 15 Α. We did. 16 Did the BLM make you come back and get a Q. 17 development area? 18 We did get a development area (unclear). Α. When did you file for approval with those Haroun 19 Q. 20 Ranch wells? I have -- I don't recall the exact date, but I 21 Α. can look at -- I mean, I can provide that information for 22 23 you. 24 Oh, thank you. Now, one thing -- and this might Q. 25 be for the engineers, so I apologize, let me know --

Page 47 basically BTA's plans would require Novo to drill kick-outs 1 2 or tangents of somewhere around 2300 to 2400 feet. Like 23 3 to 2700 feet, I believe. Has BTA ever drilled a tangent or 4 a kick-out that long? No, I mean, to refer or let Nick Eaton answer 5 Α. 6 that question. He is our drilling manager and he can 7 testify. 8 Q. Okay. Thank you. When you are getting into your 9 development plan, and this was your Exhibit 4, I believe, you said your -- your face -- or I'm not quite sure if 10 11 that's the right exhibit, but your Phase 1 development plan 12 was a four-well program. Is that correct? 13 Α. That's correct. 14 And in what zone? 0. 15 Α. In the look Wolfcamp. 16 How many additional wells is BTA looking at Q. 17 drilling in its Ochoa JOA acreage? 18 Α. Readily --19 Q. I don't expect -- go ahead. Britton Mcquien would be that addressing that. 20 Α. 21 Okay. Do you agree that Novo getting approved Q. 22 surface locations in the eastern side of -- either on the 23 eastern side of the NW/4 of Section 8 or in the NE/4 of 24 Section 8 are remote, if not impossible? 25 Α. I think there are challenges, yeah.

Page 48 And did BTA protest Novo's development area for 1 Q. 2 its proposed Astrodog wells? 3 Α. Yes, we did. 4 0. Now, under Novo's plan, BTA will receive its 5 proportionate share of production from the NW/4 of Section 6 8, will it not? Yes, it will. 7 Α. 8 And you are talking about protecting your Q. 9 operating rights and correlative rights. The statutory 10 definition of correlative rights does not say anything about 11 operating rights, does it? 12 Α. It does not. 13 Let me review my notes for a minute. Mr. Price, Q. 14 just getting back to that TDY lawsuit for a moment, it looks 15 like there was four sections, roughly four sections of land 16 involved. 17 That, is probably correct. I would have to go Α. back to be sure. 18 19 Q. Yeah, just roughly. I'm not asking you to 20 guarantee that. And of that, what percentage of lands did 21 BTA get in the settlement? 22 I would have to look back and make that Α. 23 calculation. 24 Okay. Regarding the settlement between BTA and Q. 25 Novo regarding the Sections 4, 5 and, I believe, 8, you each

Page 49 had your own plans in that particular area. Why did BTA ask 1 2 Novo to stop its Second Bone Spring well short of Section 8? 3 Α. You know, I would have to look back to know why 4 we (unclear). 5 Okay. What was your final exhibit again? I Q. 6 don't want to ask you about exhibits that aren't yours, 7 Mr. Price. Exhibit 9? 8 Α. It is Exhibit 9. 9 Q. Okay. 10 MR. BRUCE: Madam Chair, that's all I have on cross-examination. 11 12 CHAIRWOMAN SANDOVAL: Thank you. Commissioners 13 have any questions for the witness? 14 COMMISSIONER KESSLER: Good afternoon, Mr. Price. I have something related to BTA's application -- sorry, 15 Novo's application was denied. I understand that, that BTA 16 and Novo have -- that BTA's position is that Novo could 17 develop mile and a half wells on their own. Is that 18 19 correct? 20 THE WITNESS: Yes. COMMISSIONER KESSLER: Can BTA do still (unclear) 21 with Novo access, use its surface access to develop those 22 mile and a half wells. What surface access would Novo use 23 24 to develop those mile and a half wells? 25 THE WITNESS: When we had our meeting, we were --

Page 50 we agreed we would investigate whether it would be possible 1 2 for Novo to have a location that was acceptable to them to develop their mile and a half development, and that they 3 4 wound up getting the surface (unclear) and I think that we'll -- our testimony (unclear) Nick Eaton will be able to 5 6 explain your question further about the development of their mile and a half horizontals from those existing pads. 7 8 COMMISSIONER KESSLER: Sorry, just a recap on 9 that, you were cutting in and out a little bit. I said 10 address questions regarding surface access in (unclear). (Audio difficulties.) 11 12 COMMISSIONER ENGLER: I'm sorry, Madam Chair, 13 we're having some difficulty here. 14 CHAIRWOMAN KESSLER: Yes, I'm sorry, I was having 15 trouble hearing Mr. Price. Did I understand Mr. Price to say that my 16 questions regarding surface development issues would be 17 better addressed through Mr. Eaton? 18 19 THE WITNESS: That's correct. COMMISSIONER KESSLER: I have no additional 20 questions. 21 22 CHAIRWOMAN SANDOVAL: Thank you. Dr. Engler? 23 COMMISSIONER ENGLER: I have no questions. 24 CHAIRWOMAN SANDOVAL: I have no questions as 25 well. Ms. Hardy, do you want to redirect?

Page 51 1 MS. HARDY: Just a couple of very quick 2 questions. REDIRECT EXAMINATION 3 4 BY MS. HARDY: 5 Mr. Price, Mr. Bruce asked you about the Q. 6 statutory provision regarding correlative rights. Do you 7 recall that question? 8 Α. Yes. 9 But you are not an expert on New Mexico law and Q. statutory construction, are you, the (unclear)? 10 No, I'm not. 11 Α. 12 And with respect to the timing of the TDY Q. 13 settlement and the Ochoa well proposal, I just wanted to be 14 clear that the Ochoa well proposals were sent on July 8 of 15 2019; is that right? 16 Α. That's correct. 17 MS. HARDY: Those were all of my questions. 18 Thank you. CHAIRWOMAN SANDOVAL: Thank you. Do you have any 19 more witnesses, Ms. Hardy? 20 MS. HARDY: I do. I would like to call Nick 21 Eaton, please. 22 23 CHAIRWOMAN SANDOVAL: Court reporter, would you 24 please administer the oath? 25

	Page 52
1	NICK EATON
2	(Sworn, testified as follows:)
3	DIRECT EXAMINATION
4	BY MS. HARDY:
5	Q. Good afternoon, Mr. Eaton.
6	A. Good afternoon.
7	Q. Could you please state your full name?
8	A. Nick Eaton.
9	Q. Where do you reside?
10	A. Midland, Texas.
11	Q. By whom are you employed and in what capacity?
12	A. BTA Oil Producers, I'm the drill manager.
13	Q. Do your responsibilities include BTA's drilling
14	activities in southeast New Mexico?
15	A. Yes, they do.
16	Q. Are you personally involved in the development of
17	BTA's Ochoa acreage?
18	A. Yes, I am.
19	Q. Are you familiar with Novo's applications for the
20	proposed Astrodog wells?
21	A. Yes, I am.
22	Q. Have you previously testified at a Commission
23	hearing?
24	A. Yes, I have.
25	Q. Were your qualifications as an expert in

Page 53 1 petroleum engineering accepted? Α. 2 Yes, they were. 3 MS. HARDY: Madam Chair, I tender Mr. Eaton as an expert in petroleum engineering. 4 5 CHAIRWOMAN SANDOVAL: Any objection, Mr. Bruce? 6 MR. BRUCE: I have no objection. 7 COMMISSIONER KESSLER: No objection. 8 COMMISSIONER ENGLER: No objection. 9 CHAIRWOMAN SANDOVAL: The witness is certified as 10 an expert. Please proceed. MS. HARDY: Thank you. 11 12 BY MS. HARDY: 13 Mr. Eaton, I would like for you to please look at Q. 14 BTA Exhibit 10. And I'm going to try to put it up here on 15 the screen. 16 17 Q. Do you have that exhibit in front of you? Yes, I do. 18 Α. 19 Q. Okay. Can you please identify that exhibit? It's a map of Novo's completed wells in this 20 Α. section. 21 22 Was the exhibit prepared under your direction and Q. 23 supervision? 24 Α. Yes. 25 How did you obtain the information contained in 0.

Page 54 1 the exhibit? This was from public data from IHS Internet and 2 Α. also from the OCD web site. 3 4 0. What does the map show? 5 It shows that Novo has only completed three Α. 6 horizontal wells in this area, and I think, more importantly, I think that there -- there is no multi-well 7 8 pad development. 9 Anything else on that exhibit? Q. 10 Α. You know, right off, setting the BTA Ochoa acreage, the Rana Salada 234H, we will show where they 11 12 failed to reach TD with that well. 13 Okay. Can you please look at Exhibit 11. Q. Can 14 you identify that exhibit? 15 Α. Yes. It's a map displaying BTA's acreage, the Astrodog unit, Novo's Rana Salada 504 unit. The exhibit and 16 the next several exhibits will show Novo does not do what it 17 represents and also what it is ordered to do by the 18 Division. 19 20 Was this exhibit prepared under your direction Q. 21 and supervision? 22 Yes. Α. 23 And where did you obtain this information? Q. 24 Α. Same as the last exhibit, from IHS Internet, 25 which is public data, and the OCD web site.

Page 55 1 What does the exhibit show? Q. 2 Α. It shows that Novo failed to reach TD in this well, it's the Rana Salada Fed Com 0504 Number 234H, and 3 4 failed to penetrate the last 40-acre block of this producing 5 unit. 6 And was that well the subject of a pooling order? 0. 7 Yes, it was. Α. 8 And was that order R-20249. Q. 9 Α. Yes. 10 Can you please look at Exhibit 12? Q. You've got 13 up. 11 Α. 12 My apologies here. Here we go. Can you identify Q. 13 that exhibit please? 14 This is the C-102 for the Rana Salada 0504 Number Α. 15 234H as well as an excerpt from the pooling order for that well. 16 17 Was this information obtained from OCD records? 0. Yes, it was. 18 Α. 19 Q. What does it show? It clearly shows that the stranded 40-acre unit, 20 Α. that the well stopped short, so the -- according to the 21 permit the planned TD was 20,985 foot. The reported total 22 23 depth of the well was 19,892 foot, which is just over a 24 thousand foot lateral, and most importantly it shows the 40 25 acres of stranded unit that was left behind.

Page 56 And what does the order provision on the right 1 Q. 2 reflect? 3 In the highlighted portion, it just says that Α. 4 Novo was to file a Sundry notice that each quarter-quarter section had been penetrated and was capable of producing oil 5 6 and gas. 7 So this well was pooled; right? Q. 8 Α. Yes, it was. 9 Did you hear Novo's testimony that it no longer Q. needs to pool this acreage? 10 Yes, I did. 11 Α. 12 Did Novo file any type of a notice about that 0. 13 fact with OCD? 14 No, they did not. Α. 15 Based on your experience, are operators expected Q. 16 to notify OCD when they've obtained a polling order that's 17 no longer necessary. 18 Α. Yes. 19 Q. And under the order, Novo was supposed to file a 20 notice that penetrated each quarter section; is that right? 21 Yes. Α. 22 ο. Did it file that notice? No, it did not. 23 Α. 24 Do you why Novo did not drill the wells to the Q. 25 planned depth and penetrate the last 40-acre tract?

Page 57 I was not aware of that until this hearing. 1 Α. 2 Was it your understanding of Novo's testimony Q. 3 that one of its contractors made a mistake? 4 Α. That's what they testified, but I guess what I understood was that a single person closed an orbit valve on 5 6 a rig. An orbit valve is a secondary piece of well control equipment. That single act of closing an orbit valve, I 7 8 would be very surprised if that would cause a failure of 9 sorts that would end up in stranding 40 acres of acreage. 10 Also, one would expect a wellbore construction method and execution of that method that would allow for 11 12 simple mistakes that an operator could readily recover from 13 a simple mistake in order to comply with an order and to not 14 strand 40 acres of acreage. 15 As the operator, is Novo responsible for the 0. actions of its contractor? 16 17 Yes, they are. Α. 18 Where is the Rana Salada 0504 234 well located in Q. 19 relation to the wells that Novo proposes here? It is on the direct northern border of the wells 20 Α. that are proposed here. 21 22 ο. Is Novo's failure to drill the well to planned 23 depths and penetrate the last tract concerning? 24 Α. Yes, it is. 25 Why? 0.

Page 58 Standing acreage would be the number one reason. 1 Α. 2 This is concerning, failing to comply with an order from the NMOCD is very concerning. And then also applying this 3 4 acreage into a unit that's -- into a pooled acreage saying that it's contributing where this 40 acres is going to have 5 6 a tough time contributing to the production of this unit. 7 So do those issues cause BTA concern with Novo's Q. 8 applications here in its inclusion of BTA's acreage and its 9 development plan, in Novo's development plan? 10 Α. Very much so. 11 Let's look at your Exhibit 13, please. Well, let Q. me ask you this, what do Exhibits 13 through 15 relate to? 12 13 It relates to the requirement that Novo drill and Α. 14 complete wells simultaneously in this unit, and they did not 15 do that. 16 In your opinion, does Novo have a pattern of not Q. following through on what it's indicated to the Division 17 18 that it will do or what it's been required to do? 19 Α. Yes. 20 Can you please identify BTA Exhibit 13? Q. Exhibit 13 is an excerpt of a pooling order 21 Α. R-20249 in Case Number 16286. That's another example of 22 23 Novo not doing what they represented to do in order to get 24 this order, and also what they were required to do. 25 So on the left-hand side this is actually an

Page 59 excerpt of the hearing order itself. Paragraph G is 1 2 outlining the initial wells of the unit for the Wolfcamp, Well 234H and 214H. 3 4 In H there were conversations of Novo requesting additional time to drill these wells, and in that agreement 5 6 to have more than 180 days, it says that the applicant is 7 proposing to drill wells back to back and complete 8 simultaneously. 9 In this unit, according to the public record, 10 Well Number 234H was spud July 17, 2019, and according to the public record, Novo has not commenced drilling of wells 11 12 on the 214H. 13 BTA also introduced a complete copy of this order Q. 14 as Exhibit 35; is that correct? 15 Α. Yes. 16 And when was the order issued? Q. 17 I believe it was November 27 of 2018. Α. 18 Mr. Eaton, can you please identify BTA Exhibit Q. 19 14? This is an excerpt of Kurt Shipley's testimony on 20 Α. behalf of Novo in case 16286. 21 22 ο. And what is your understanding of his testimony? 23 Α. His testimony here on the left-hand side, he's 24 asked, "Your plan is to drill these wells sequentially and 25 batch drill them; correct?"

Page 60 1 He answered yes. 2 You know, this to me is testimony from, from Novo saying that they had every plan and that they represented 3 4 that they were going to batch drill and sequentially 5 complete in order to get this order. 6 0. And can you please identify Exhibit 15? 7 Exhibit 15 is further, the same case, same Α. 8 testimony from Kurt Shipley. This is where he goes on -there is a total of four counts of sequential drilling. 9 10 So on the left-hand side, the question from the examiner is, "So you plan to drill these well sequentially 11 12 and batch complete them; is that correct?" 13 "Answer: Yes." 14 Next question, "That's two the Bone Spring and two Wolfcamp wells; is that right?" 15 "Answer: Yes. The plan is a four-well pad, then 16 we would drill the four wells and follow up with four-well 17 completion." 18 Similar testimony on the right-hand side, the 19 importance of sequential drilling and completion operations. 20 21 Q. And were these excerpts obtained from Division 22 records? 23 Α. Yes, they were. 24 And what did the pooling order require? Q. 25 Α. The pooling order ended up requiring the two

Page 61 1 Wolfcamp wells drilled simultaneously, as was presented on 2 an earlier exhibit. 3 0. Did Novo do what it had stated it would do in its 4 testimony? 5 No, it did not. It did not sequentially drill Α. nor complete the wells back to back. 6 7 And how do you know that? Q. 8 Α. Based off of the spud information and then the reported production from the Rana Salada 0504 unit. 9 10 And does this cause BTA concern? Q. Yes, it does. You know, there's been a very 11 Α. 12 large project planned here, sequential drilling and stuff 13 that's very important. BTA is a very large believer in the 14 efficiency gains, as well as the reservoir management of 15 multi-well pad drilling. It is very concerning that we will be forced into a unit with an operator that has represented 16 17 this many times and failed to complete its plans. 18 Mr. Eaton, I'm going to put up BTA Exhibit 16. Q. 19 Can you please identify that? This is an e-mail from May 4, 2020, from Cory 20 Α. Walk, Novo's consultant, a regulatory consultant, to Dean 21 McClure at the OCD showing Novo does not intend to drill 22 wells (unclear). 23 24 Q. Is this a true and correct copy of the e-mail? 25 Α. Yes.

Page 62 1 Was it obtained from Division records? Q. 2 Α. Yes. 3 What wells does this e-mail involve? 0. 4 Α. So this, really it pertains to the unit, the Rana Salada Fed Com 0504 unit. This is an application for 5 surface commingle actually off-lease measurement. So it's 6 applied for in a unit fashion, but you do need to assign 7 8 wells to this. 9 So in the body of this e-mail you see it says the 10 only wells tied to this off-lease measurement are the Rana Salada Fed Com 0504 234H, 214H. It also said Novo doesn't 11 12 plan on drilling any of the Bone Spring wells any time soon, 13 so this e-mail is requesting that the Bone Spring wells be 14 removed from this application. 15 And were those wells pooled? 0. Yes, they were. 16 Α. 17 0. When was the pooling order issued? May 21, 2019. 18 Α. 19 Q. And was that order R-20567? 20 Yes, it was. Α. 21 Has BTA also introduced a complete copy of that Q. order as an exhibit? 22 23 Α. Yes. 24 Based on the information in Mr. Walk's e-mail, is Q. 25 it correct to say that Novo pooled a spacing unit for wells

Page 63 it did not intend to drill any time soon? 1 2 Α. Yes. 3 Is that concerning to BTA? 0. 4 Α. Yes. You know, having the Rana Salada 234H order here, we are very interested as a consultant firm, you know, 5 there is various effects that can occur. You know, we're 6 also -- we like the geology in this area. We have seen 7 8 fantastic results in multiple horizons. We are very 9 interested in getting in here and getting Phase 1 of this 10 project complete. 11 Mr. Eaton, can you please look at BTA Exhibit 17? Q. 12 Α. Yes. 13 Can you identify that exhibit? Q. 14 So this is an excerpt of Mr. Patrick's testimony Α. 15 on behalf of Novo in Case 20916 before the Division. 16 Q. Is this a true and correct copy of the excerpt of 17 his testimony? 18 Α. Yes. 19 ο. What else does the exhibit show? I have also included a map of BTA's acreage and 20 Α. Novo's proposed drill island. 21 22 Q. Can you identify the drill island and the acreage 23 that they will access? 24 Α. So I did this on Google Earth to also show where 25 the lake comes in along with the section lines. So the

Page 64 yellow on the -- in Section 8, the NW/4, that's the approved 1 2 Nido Salado Drill Island, and then Novo hs also applied for Islands A and B. Those, to my understanding, those islands 3 4 have been submitted for approval and not yet approved. 5 Q. Were you present for Novo's witnesses testifying 6 that they would have to drill a half mile dead hole to 7 access their wells if their applications are not granted? 8 Α. Yes, I was. 9 And that doing so would cause economic harm and Q. safety concerns? 10 11 Α. Yes. 12 What is Novo doing in the S/2 of this unit to 0. 13 access its wells? 14 So the S/2 would be the S/2 of 8 and 9. Their Α. plans according to Mr. Patrick's testimony before the 15 Division is that Novo will use a half mile kick-out from 16 Drill Island B to access the wells in the S/2 of Sections 8 17 18 and 9, but if they were to do that same thing in the N/2 of 8 and 9, then it would cause extreme economic harm in 19 relation to BTA's Ochoa development. 20 21 ο. So is it correct that Novo is willing to drill a 22 tangent to access its wells in Astrodog south, but not in 23 the north? 24 Α. Yes. In order to traverse that step-out from 25 Drill Island B to the S/2 of 8 and 9, they proposed using a

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1 tangent design to get there.

Q. Mr. Eaton, let's talk about your Exhibits 18
through 21, and I will pull up 18. Can you please identify
that exhibit?
A. Exhibit 18, this is a schematic of a well design

6 that I put together that could be used for Novo to access
7 its Astrodog north unit from the approved Nido Salado Drill
8 Island without creating a half a mile of dead space or dead
9 hole.

Q. Did you hear the testimony of Novo's witnesses that pooling BTA's acreage, and this is a quote, I believe, from their exhibit, "The only viable plan to access Novo's acreage."

14 A. I did hear that, yes.

15 Q. Do you agree?

16 A. No, I do not.

Q. Can you explain what your exhibit shows and why
you don't agree.

A. So the main issue here is that there is a step-out to occur to get to this 480 acre Astrodog north unit. On the left side of this exhibit is a cross-section in the middle of the mapview. If we look at that mapview, there is a red box, a red rectangle. The red box represents the NE/4 of Section 8, while the red rectangle the N/2 of Section 9.

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1 So that's representative of the Astrodog north 2 480-acre unit. This was all taken from their C-102s that 3 were filed in the application. There is a little drilling 4 rig derrick in there. That is at the Nido Salado Drill 5 Island portion so that you can see on the bottom of -- the X 6 axis of that graph is east and west, so there's over a 7 2000-foot step-out to achieve there.

8 Novo has said that the only way to achieve that 9 step-out is to drill straight down into the horizon, turn 10 the well 90 degrees into the lateral and then drill over to 11 that 480-acre unit that's on there.

12 While that is one way to do that, that is by far 13 the most inefficient way to do it. So what I did here was I 14 prepared a tangent design, a tangent being where as you are 15 drilling down to your kick-out point to get -- that's where 16 you would go from zero to 90 degrees in your lateral, as you 17 are drilling down through there, you deviate the wellbore 18 into a tangent degree.

19 That is how you can achieve the step-out by -- as 20 you're drilling the vertical section to get over there. So 21 what it does is by using a 20 degree tangent design here, 22 you can achieve the over 2000-foot step-out, and in fact, 23 you only drill about 403 additional foot of total well 24 measured depth, not the half mile that Novo has testified. 25 The other thing I did with this, as you can see

Page 67 on the cross section, I put in (unclear), there is a Rustler 1 2 top, a Delaware, Bone Spring, Second Bone. Since BTA has plans to drill the the Second Bone, what this design would 3 4 achieve to do was use a tangent, get the -- achieve the step-out to get -- to place their wellbore past the setback 5 area of the BTA well, so this would alleviate all potential 6 collision issues in this unit. 7 8 Furthermore, this plan uses a 20 degree tangent, 9 which is much less than the 48 degree tangent for Novo's 10 Astrodog Fee 0809 244H. So that's the S/2 wells we explained in the last exhibit. 11 12 Would this kind of alleviate collision issues 0. 13 even with the ellipse of uncertainty? 14 Yes, it would. Α. 15 Would it allow BTA and Novo to each development 0. 16 their acreage? 17 Yes, it would. Α. Have you reviewed Novo Exhibit 11? 18 Q. 19 Α. Yes, I have. 20 Do you have that in front of you? Q. Yes. Okay. 21 Α. 22 And do you agree with the information depicted in Q. 23 that Exhibit? 24 Α. I do not. 25 Why not? 0.

Page 68 This represents Novo drilling straight down from 1 Α. the Nido Salado Drill Island. As I said before, drilling 2 3 straight down, not using a tangent and then building out 4 into the reservoir and drilling at 90 degrees to get over to their unit, so it shows overlap of BTA's horizontals with 5 Novo's horizontals, which this could easily be avoided with 6 7 this single tangent design that I've shown before. 8 Another issue within their ellipse of uncertainty, they have shown an overlap of ellipse of 9 10 uncertainty and it indicated that both ellipses are the same size, when, in fact, the ellipse of uncertainty is closely 11 12 related to the total measured depth of that point. 13 So the total measured depth of their well in this 14 situation that they represent would be two miles, where 15 BTA's would be one and a half miles, but BTA's ellipse would be considerably smaller than the ellipse that is shown in 16 17 this graph. 18 Is it a fair summary of, Mr. Eaton, that Novo's Q. 19 Exhibit 11 is not an accurate depiction? 20 Α. Yes. 21 Mr. Eaton, can you please look at Exhibit 19? Q. 22 Α. Yes. 23 Can you identify this exhibit? Q. 24 So this is just showing full-field co-development Α. 25 of all the BTA Ochoa wells and Novo's Astrodog north wells.

Page 69 I think that there are many, many wells being (unclear) 1 2 today. 3 And was this exhibit prepared under your 0. 4 direction and supervision? 5 Α. Yes, it was. 6 0. What does it show? 7 So this I prepared in Compass, the same Α. 8 directional drilling software as before. What it shows is 9 that, with the BTA development in Ochoa and the Astrodog 10 north unit, that by drilling simple tangent designs, that both operations can go forward on approved drill sites and 11 12 that there will be no collision risk. 13 Q. Have you heard Novo's testimony regarding 14 collision risk? 15 Α. Yes, I have. 16 Can you respond? Q. 17 Like I said, this acreage can be developed Α. without collision risk as shown here. Really, the larger 18 risk of collection is in their well count. There's a 19 much -- a higher collision issue to be avoided amongst their 20 own wells than there is in consideration of BTA's wells. 21 22 ο. And is that due to the number of wells that Novo 23 is proposing in their locations? 24 Α. Yes, that is. 25 Can you please look at BTA Exhibit 20? Can you 0.

Page 70 identify that exhibit, please? 1 This is just another view from the Compass 2 Α. 3 The last view, in two dimension it can get very program. 4 hard to see the full development, so this is just full-field 5 co-development in 3-D view just showing that there is no 6 collision risk as long as the tangent designs are followed. 7 What you couldn't see in the two dimension is 8 that BTA will also employ tangents in this area. You know, I guess our acreage isn't underneath the lake so we are not 9 10 seeing as large a tangent in this instance, but that there, there would be no collision risk as long as Novo follows a 11 12 well-executed plan. 13 Did you prepare this exhibit? Q. 14 Α. Yes, I did. 15 Can you please look at BTA Exhibit 21? Can you 0. 16 identify that exhibit, please? 17 Α. So this is a schematic comparing the method Novo was using to access this well in the S/2 of the Astrodog 18 unit in comparison to BTA's proposal in the N/2. 19 20 Did you prepare the exhibit? Q. Yes, I did. 21 Α. 22 Okay. And what does it show? ο. 23 Α. So this shows that this plan is actually more 24 complex than what I proposed in the N/2. It shows that 25 BTA's proposal is simpler and less aggressive by means of a

Page 71 shallower tangent angle, and that Novo has every plan of 1 2 accessing other units in this direct area using a larger 3 step-out and using a larger tangent. 4 So some of the highlights here, this surface location is more than 2000 foot north and 1500 foot west of 5 their first take location. And then the bottom left, this 6 is a mapview from their directional plan that they submitted 7 8 to the state for their permit. 9 You can see in there where it has begin 48 degree 10 tangent. The 48 degree tangent is much larger than the 20 degree tangent to access the N/2. 11 12 Did you hear the testimony of Novo's witnesses Q. 13 regarding BTA's proposed tangent? 14 Α. Yes, I did. 15 What's your understanding of that testimony? 0. I understood that while other companies have 16 Α. 17 executed tangents, that apparently they feel this makes them uncomfortable. 18 19 ο. And do you disagree? Yes, I disagree. 20 Α. 21 And why is that? Q. You know, tangents have become an absolute normal 22 Α. 23 in our industry. Every single multi-well pad drilled in the 24 Delaware Basin is going to have a tangent of some sort, 25 whether it be for anti-collision if laterals are stacked,

Page 72 whereas most pads are set out as in this exhibit, that there 1 2 is wells maybe 20 or 30 foot apart on the surface. 3 Once they are downhole they can be anywhere from 4 100 to 660 foot apart or more. So to achieve that all of these wells will have tangents. Tangents can vary across 5 the basin. An engineer's goal, I would believe, is to 6 7 generally reduce the tangent angle, but angles in this order 8 are definitely not (unclear). 9 What's your conclusion based on BTA Exhibits 18 Q. 10 through 21? Α. I conclude that we can take their plan that is 11 12 directly adjacent to the Astrodog and Ochoa acreage, and 13 that we can tone that plan back to something less 14 aggressive, and from an approved drill island, the Nido 15 Salado, that Novo would have no issue or should have no issue accessing the 480-acre unit of the Astrodog north. 16 17 0. And in that scenario Novo would not need to pool 18 BTA's acreage to access its wells; is that right? 19 Α. That is correct. 20 And BTA and Novo could each develop their own Q. 21 acreage? 22 Yes, without collision risk. Α. 23 Would denial of Novo's applications violate its 0. 24 correlative rights, in your opinion? 25 Α. No.

Page 73 1 Let's look at BTA Exhibit 22, please. Can you 0. 2 identify this exhibit. 3 Α. Yes. This is a map depicting BTA's approved 4 drill site to access the Ochoa wells. 5 Q. Did you prepare the exhibit? 6 Α. Yes, I did. 7 Did you have a correction to make to it? Q. Yes, I do. I have mislabeled the section 8 Α. numbers, so kind of, there's purple dots in the very, very 9 10 middle of Section 8 and Section 9, that should actually be Section 7 on the left and Section 8 on the right. 11 12 Does BTA have the ability to timely locate 0. wellsites and operate on the surface? 13 14 Yes, we do. Α. 15 And what does this exhibit show? 0. It shows that we had an approved drill site from 16 Α. 17 the BLM. With the BLM's guidance in this situation, we placed the site actually outside of the potash boundary, 18 while the wells that do penetrate into the potash area, what 19 this did is it moved the surface location more than a mile 20 away from the surface salt mining operations, as well as the 21 subsurface mining operations. 22 23 It also placed this pad near our existing Culebra 24 BLV Fed Number 1H. That's the -- there's a surface -- there 25 is a pad in the very northwest corner of Section 8, BTA

Page 74 operates that well. It also places the well pad readily 1 2 accessible for oil sales, gas sales and water disposal. 3 Will there be less surface disturbance if 0. 4 Marathon's and Novo's applications are approved. 5 Α. No. 6 0. Why not? 7 Either way, BTA is going to have to come in and Α. 8 drill at least one Second Bone Spring well, so that is going to -- and that would be the same pad that we proposed here. 9 10 So whether we drill one or whether we drill multiples, the same surface disturbance will occur. 11 12 Can you please look at BTA Exhibit 23? Can you 0. 13 identify that exhibit? 14 This is a schematic of BTA's Rojo development. Α. 15 Did you prepare that exhibit? 0. Yes, I did. 16 Α. What does it show? 17 0. 18 This just shows that BTA is an experienced Α. multi-well pad operator in New Mexico. We are currently 19 operating two rigs. At the beginning of the year we had 20 four rigs, and we decided to reduce rig count due to the 21 current Covid situation. We also have an active frac fleet. 22 23 The Rojo lease is approximately two and a half 24 sections in Lea County that I have designated there. We 25 have been drilling out here for a couple of years. There

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are currently 34 wells across five horizons, and we
 currently use eight well pads in development.

Q. Does BTA's experience as a multi-well pad operator require it to evaluate and address collision issues?

A. Yes, it does. My team and I, we discuss this very frequently. We give the drilling engineer and the directional drilling company where we are incorporating all the surrounding wells, running anti-collision in order to avoid any potential hazards.

11 We have, due to the well density in here, we've 12 also had to go to measures to shrink the ellipse of 13 uncertainty. There are methods for doing that. First we do 14 MWD corrections, that's a tool correction. That shrinks the 15 ellipse of uncertainty and helps in planning.

And then where necessary we deploy gyros 16 17 generally on producing wells. The gyro will greatly reduce the ellipse of uncertainty and allow us to place wellbores 18 closer together. Generally we have to get wells close. 19 As you can see there are several places where wellbores are 20 stacked. That's our highest point of collision, and through 21 proper planning we are able to address that and place 22 23 wellbores where the geologic team has requested. 24

Q. Mr. Eaton, can you please look at BTA Exhibit 24?
A. Yes.

1

Q. Can you identify it, please?

A. This is same lease, slightly different view, what this is showing is this is just our existing wells, as well as the near term drilling plan, near term base a couple of years. What it shows is we have many many wellbores left to place in here. It also shows this is an area similar to the Ochoa with many targets to be achieved.

8 The planning is very important in order to get 9 all the wellbores in here. You can see tangents from all 10 angles across this lease in order to get wellbores in the 11 correct position. This is a federal lease, so we work 12 closely with the BLM in siting the wellbore -- the surface 13 location, the central tank batteries, as well as the 14 (unclear).

15 It definitely requires quite a bit of forethought 16 in the collision issues, and we are -- we're always willing 17 to collaborate with offset operators if there happens to be 18 a concern on anti-collision.

Q. And did you prepare this exhibit?

20

19

A. Yes, I did.

21 Q. Collectively, what do Exhibits 23 and 24 show in 22 relation to this case?

A. They just show that, I think it's very common
across Lea and Eddy County to have many horizons to exploit.
It can be difficult in order to safely place the wellbores,

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Page 77 although not beyond what is industry acceptable. 1 2 Also we want to show that BTA is very experienced. We have working interest owners in many of 3 4 these projects that are very happy with our results and that we are willing and able and ready to do so across the Ochoa 5 6 acreage. And to your knowledge, does Novo have any 7 Q. 8 experience with multi-well pad operations? 9 Α. It does not appear so. From my first exhibit, 10 which I believe was Exhibit 10, it shows they have only executed single well pads, although I have seen permits and 11 12 seen their testimony where they say they will eventually go. 13 Let's talk about BTA's drilling plans. Does BTA Q. 14 intend to commence drilling in proposed Ochoa's wells if 15 Novo's applications are denied? Yes. 16 Α. 17 0. Has BTA continued to spud wells in 2020 in New 18 Mexico? Yes, we have. In New Mexico in 2020 thus far we 19 Α. have had 28 wells spud, all of which were wells capable --20 or rigs capable of reaching TD after (unclear). 21 22 Q. And I think you said earlier that BTA currently 23 has rigs available? 24 Α. We do. We are actually running Patterson 288 and 25 Patterson 566 both Lea County right now, and we would love

Page 78 to see one of those two rigs on this project by the end of 1 2 the year. 3 With respect to contracts, does BTA have 0. 4 contracts in place for off-takers of produced water, gas and oil for the Ochoa development? 5 Yes, we do. As I showed in an earlier exhibit 6 Α. 7 that we cited, the surface hole location is the Culebra BLV 8 where we currently have purchasers in place, and we also have further gas purchasers that are ready to build in to 9 10 make sure that we don't (unclear) minimize the flare, the flared gas. 11 12 And has BTA been able to sell gas? 0. 13 Α. Yes. 14 Mr. Eaton, let's talk about some of the BLM 0. 15 issues that have been discussed. Did you hear Mr. Patrick's 16 testimony regarding BTA's submission of APDs before approval 17 of its development plan? 18 Α. Yes. 19 Q. And what was your understanding of his testimony? I believe he testified that it was presumptuous 20 Α. of BTA to submit APDs before its development plan was 21 approved. 22 23 Q. Why did BTA submit its APDs before approval its 24 development plan? 25 Because that was, at that time, what the BLM Α.

1 instructed us to do.

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Page 80 1 Α. Yes. 2 To your knowledge, did Novo provide any Q. 3 information to Mr. Rutley to let him know an application for 4 de novo review was filed? 5 It does not appear that they did. Α. 6 0. Did BTA receive notice of BLM's approval of the 7 Novo's development area? 8 Α. No. 9 When did BTA become aware of that approval? Q. 10 At this hearing. Α. 11 Has BTA notified Mr. Rutley that a de novo Q. hearing is occurring? 12 13 Α. Yes, we have. 14 Mr. Eaton, in your opinion, can Novo economically 0. 15 and safely development this acreage without pooling BTA's 16 Ochoa acreage? 17 Yes, they could using the tangent method I Α. discussed earlier, which is very similar to the method that 18 they have proposed using to access wells in the S/2 of the 19 Astrodog unit. 20 21 Q. Would a tangent be more economic than the dead 22 hole option that Novo has discussed? Yes, there would be (unclear) the total measured 23 Α. 24 depth of the well, less utilizing a tangent than utilizing 25 the half mile to --

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1	Q. Would denying Novo's application result in waste		
2	as Novo has argued?		
3	A. No.		
4	Q. In your opinion, is Novo an experienced and		
5	prudent operator that is capable of completing and operating		
б	it wells in a manner that protects correlative rights and		
7	prevents waste?		
8	A. No.		
9	Q. Why not.		
10	A. Novo has only completed three wells, one of which		
11	left part of the unit stranded, has not completed other		
12	wells it has proposed and does not intend to do so any time.		
13	Also they have failed to do any (unclear).		
14	Q. Is BTA a prudent and experienced operator that is		
15	capable of developing the Ochoa acreage in a manner that		
16	prevents waste?		
17	A. Yes. BTA is an experienced operator and		
18	successful with its multi-well pads operations in this area.		
19	Q. In your opinion, would the granting of Novo's		
20	application result in an impairment of BTA's correlative		
21	rights?		
22	A. Yes.		
23	Q. And in your opinion would the granting of Novo's		
24	application result in waste?		
25	A. Yes.		

Page 82 1 MS. HARDY: I have no further questions, and 2 Madam Chair, I move the admission of BTA Exhibits 10 through 24. 3 4 MR. BRUCE: I have no objection to the admission 5 of BTA's exhibits. 6 CHAIRWOMAN SANDOVAL: Commissioners, any 7 objection? 8 COMMISSIONER KESSLER: No objection. 9 COMMISSIONER ENGLER: No objection. 10 CHAIRWOMAN SANDOVAL: BTA's Exhibits 10 through 24 are entered into the record. 11 12 (Exhibits BTA 10 through 24 admitted.) 13 CHAIRWOMAN SANDOVAL: Mr. Bruce, would you like 14 to cross the witness? MR. BRUCE: Yes, I have several questions. 15 CROSS-EXAMINATION 16 17 BY MR. BRUCE: 18 Mr. Eaton, looking at New Mexico and Texas, how Q. 19 many horizontal or directional wells has BTA drilled, 20 approximately? I believe Mr. Price testified to the New Mexico 21 Α. wells. I do not have that number in front of me at this 22 23 moment. 24 Okay. What is the longest tangent? Were you Q. 25 going to say something?

Page 83 1 Α. No, I was not. 2 Okay. I don't want to interrupt you. What is Q. the longest tangent that BTA has drilled on one of its 3 horizontal wells? 4 5 Α. We have stepped out over a mile before. 6 0. Where? 7 Α. That was in southern Louisiana. 8 How about New Mexico, how long is the longest Q. 9 tangent? I don't have it directly in front of me. 10 Α. I can say we regular -- we step out on every single well. It's 11 normal for us to see from a quarter section to a half 12 13 section. What is the highest tangent angle that BTA has 14 Q. 15 drilled? 16 Α. I would have to review (unclear) the drilling 17 history to answer that question. 18 Q. Could you repeat? You cut out for me for a 19 second. I do not have that information with me. It is 20 Α. not fresh enough on my mind to testify. 21 22 Q. Okay. Thanks. Is there additional risk or cost associated with longer tangents, say drilling 400 feet as 23 24 opposed 2400 feet? 25 Between 400 foot and 2400 foot, yes. Α.

Page 84 1 And what are the risks associated with drilling Q. 2 tangents? 3 Α. Well, I guess you are extending a portion of the 4 open hole, so any time you've got open hole there is a risk. When you have to drill further in that open hole, that risk 5 6 does increase, not necessarily proportionately, but yes, it 7 does increase. 8 Does it resolve -- can it resolve in slower ο. 9 drilling, more days and higher costs? 10 Α. I would -- it can, yes, very dependent on the operator. I would just say, in today's world, there is very 11 12 little difference between drilling straight down and 13 drilling a (unclear). 14 Is there more bit wear, more rig down time, more 0. 15 days involved? Again, in today's modern world, I would say rig 16 Α. down time is probably unrelated. You know, with wellbore 17 placement nowadays being where you want to place, you call 18 it the wellbore stick in relation to your section line, 19 whether you are drilling a tangent or drilling straight 20 down, a prudent operator would have a directional assembly 21 in the hole. That directional assembly would look very 22 similar, if not identical, if you are drilling straight or 23 24 if you are drilling a tangent. 25 Do shallow dog legs negatively impact torque and 0.

		Page 85	
1	drag.		
2	Α.	I have not modeled that.	
3	Q.	Does BTA typically avoid shallow nudges?	
4	Α.	No, the opposite, in fact. It is very normal for	
5	us to kick	off within a couple hundred feet of surface.	
6	That is why this design I just, the surface area should be		
7	set probably the 3- or 400 range. Going to Exhibit 18, I've		
8	got kick-off tangent at 584 foot. That was intentional to		
9	put them below their surface casing point so where they can		
10	get their	full assembly outside of surface casing in order	
11	to fully c	ontrol the tangent.	
12	Q.	Now, under the oil potash order, Order R-111P, is	
13	directiona	l drilling permitted in the salt interval?	
14	Α.	I don't have that in front of me.	
15	Q.	In order to avoid BTA's shallowest target zones,	
16	would they	need to be backed to vertical east of the BTA toe	
17	by that de	pth; is that correct?	
18	Α.	Please rephrase.	
19	Q.	Well, what is the shallowest zone BTA is	
20	drilling?	First and Second Bone Spring, eventually.	
21	Α.	Second Bone Spring.	
22	Q.	And Novo would be, need to be backed vertical	
23	east of BT	'A's toe in that well; is that correct?	
24	Α.	Yes, I believe that's what I was showing in	
25	Exhibits 1	8, 19, 20 (unclear) specifically on Exhibit 18, on	

Page 86 the cross section, I have labeled the Second Bone Spring 1 2 Sand, that's actually the top of the Second Bone Spring Sand where a target would be below that, you can see on the cross 3 section that the wellbore gets back to vertical. 4 5 So the tangent achieved the step-out from the Nido Salado Drill Island, and it sets -- the setback for the 6 7 Second Bone Spring target that BTA would like to drill. 8 Now, Mr. Price said that the initial -- the ο. 9 initial Phase 1 well -- the official Phase 1 number of 10 wells is four wells, ultimately. What does BTA -- what is 11 an approximate number for the number of wells that BTA plans 12 on drilling for its Ochoa JOA? 13 Α. You know, we showed them the exhibits of the 14 Marathon case which I believe everyone was present for, and the same exhibits will be shown in this case with Mr. 15 McQuien's testimony. Thus far what we presented is that 16 17 Phase 1 is four Lower Wolfcamp wells. We've got plans to come back, drill two wells in the XY Sand and two wells in 18 the Second Bone. 19 So as you can see on Exhibit 19 when I say 20 full-field co-development, that's where I put all of those 21 wells that we are talking about on Exhibit 19 and 20. 22 23 0. And just because I'm looking at a bunch of little 24 lines, I cannot tell. Is that 10 or 12 wells, just roughly? 25 Α. Mr. McQuien's exhibit will show that it's eight

	Page 87
1	wells.
2	Q. Eight wells. That's all I'm looking for is just
3	a number. Go back to your Exhibit 12, Mr. Eaton.
4	A. Okay.
5	Q. Are you aware that the stranded the so-called
6	stranded 40 acres is included in the communitization
7	agreement for the 234 well?
8	A. Yes.
9	Q. So it is sharing in production from that well?
10	A. On paper, I suppose.
11	Q. Are you aware that Novo has plans for its
12	subsequent wells to penetrate that 40 acres so that it will
13	not be so that it will be productive?
14	A. I believe that's what they testified in their
15	hearing.
16	Q. Regarding your Exhibit 13, do you know that Novo
17	drilled a 234 H well, but has not received APDs for all the
18	wells it desires to drill on that acreage?
19	A. I'm not aware of that.
20	Q. And are you aware that even though it didn't
21	drill if Novo didn't drill a well under the pooling
22	order, under the statewide rules it is still allowed to
23	propose that well to be an infill well, one or more infill
24	wells to the interest owners in that acreage?
25	A. I can't answer that specifically. All I can say

Page 88 they testified two wells, Jalapeno and (unclear) they failed 1 2 to do so. 3 But, they would be in big trouble with the BLM if 0. 4 they drilled a well without an APD; correct? 5 Sounds like they should have waited for a permit. Α. 6 0. And do you know one or two of these orders you 7 referenced, the orders are no longer valid because Novo 8 entered into JOAs with all the interest owners, so the 9 pooling order was no longer needed? 10 Α. Novo has not indicated that in the public record as is required. 11 12 Now, Mr. Price testified that BTA first started 0. 13 drilling in the 1950s, and I'm glad there is a company out 14 there about as old as I am. But should BTA have been 15 prevented from commencing wells in the 1950s because it did 16 not have all that much experience in drilling wells in New 17 Mexico? 18 Α. I don't suppose. 19 ο. In looking at your Exhibit 17 --20 Α. Yes, sir. 21 -- looking at that, if Novo is using Drilling Pad Q. 22 B, which is near the S/2 of Section 8, the tangents it will 23 be drilling from, certainly in the N/2 S/2 of Sections 8 and 24 9, it's almost minimal, isn't it? 25 Α. Correct.

Page 89 1 And even going to the S/2 S/2 of Section 8, it's 0. 2 not that far away. It's not the 2700 feet that Novo will have to drill if it's applications are denied? 3 4 Α. That number is incorrect. Their C-102, I believe I have got it on Exhibit 21. So it says their surface 5 location is 2048 foot north, 1506 foot west of their first 6 take, so this is for the S/2 S/2 they are referring to 7 (unclear) tells us that that is a 2,542 foot step-out. 8 9 2,542 feet? Okay. Thank you. Q. 10 Α. Would you like BTA's proposed step-out? 11 ο. No. 12 Okay. Α. 13 Is there extra expense for drilling extra length Q. 14 in a well? 15 Α. Yes. So this proposed, the proposed tangent adds 403 foot to the mile and a half (unclear) of 18,000 and 16 17 change. It is 2 percent additional well drills. 18 For its proposed Ochoa wells, will BTA be using Q. 19 one drill pad or one drill, approved drill location drill 20 pad, or will it be using a couple? 21 One is our plan. Α. 22 And you talked about the -- Novo's onsite Q. 23 location, did BTA show up three hours late to that onsite? 24 Α. No. We actually got there with Titus, XTO and 25 the Salt Mine. We got there in time to meet the first -- to

Page 90 be on the first proposed drill island. 1 2 Does the BLM or the operator normally send Q. invitations to onsites? 3 4 Α. Who knows, sometimes it's either or. Jim Rutley, likes to prepare the onsite notification list. 5 6 Do you rely on the BLM to send them out for your 0. 7 your onsites? 8 Α. I don't recall. 9 CHAIRWOMAN SANDOVAL: Mr. Bruce, are you through 10 with your questions? MR. BRUCE: Excuse me for a minute, Madam Chair. 11 I'm just checking through my notes. Thank you. 12 13 BY MR. BRUCE: 14 Other than these first Phase 1, four wells, have 0. 15 you filed APDs with the BLM? No, we were waiting resolution of these matters. 16 Α. 17 0. And you talked about BTA's correlative rights, and I asked this question of Mr. -- Mr. Price, under 18 19 BTA's -- under Novo's plans BTA will share in production 20 from the entire NW/4 of Section 8, will it not? 21 Α. Yes. 22 So its correlative rights will be protected? ο. 23 Α. There are many unnecessary wells drilled. 24 Thank you, Mr. Eaton. Q. 25 Α. Thank you, Mr. Bruce.

Page 91 MR. BRUCE: That's all I have, Madam Chair. 1 CHAIRWOMAN SANDOVAL: Thank you. Are there any 2 questions from the Commissioners? 3 4 COMMISSIONER KESSLER: No (unclear). CHAIRWOMAN SANDOVAL: Dr. Engler? 5 6 COMMISSIONER ENGLER: (Unclear) Exhibit 19, just want to make sure I got this right, we got the little 7 8 derrick with the Novo wells, that's on the Nido side; right? 9 THE WITNESS: Yes, it is. 10 COMMISSIONER ENGLER: And then for the star, which would be the Ochoa, that's way over -- it's in Section 11 12 12 on the far east side of Section 12; correct? 13 THE WITNESS: Yes, it is. 14 COMMISSIONER ENGLER: And -- okay. And then I have another, a different question. On your Exhibit 23, 15 this is your BTA Rojo lease development? 16 17 THE WITNESS: Yes. 18 COMMISSIONER ENGLER: You can correct me if I'm wrong, but when I look at this, it looks like for your 19 (unclear) drilling there is, what, maybe one, maybe two 20 wells out of all of those that have high tangents; is that 21 correct? 22 THE WITNESS: I don't -- it's hard to see in the 23 24 middle. That's where our well pads went to four, six, eight 25 wells per pad. We then had to go a larger step-out, the

Page 92 these step-outs for this area, they range from that quarter 1 2 section to a half section. That is where, once full 3 development of this lease went underway, especially in the 4 Wolfcamp, we went a very dense well pad and the tangents 5 becoming a little bit larger. 6 COMMISSIONER ENGLER: You said about a quarter to 7 half mile, some of them? 8 THE WITNESS: Yes. 9 COMMISSIONER ENGLER: Then if I look at your 10 Exhibit 24, which is your further future full development, it looks like significant amount of tangent drilling; is 11 12 that correct? 13 THE WITNESS: Yes. Really every well in the last 14 several years (unclear). 15 COMMISSIONER ENGLER: Thank you. THE WITNESS: You are welcome. 16 17 COMMISSIONER ENGLER: That's it. No more 18 questions. CHAIRWOMAN SANDOVAL: Thank you, Dr. Engler. 19 Ι don't have any questions as well. It is basically right at 20 3 o'clock. Let's take a ten-minute break -- actually maybe 21 15, and come back at 3:15 and continue with your next 22 witness. 23 24 MS. HARDY: Madam Chair, I had a couple of 25 redirect questions real quickly.

Page 93 1 CHAIRWOMAN SANDOVAL: We'll do that and then take 2 a break. 3 MS. HARDY: Let me get Mr. Eaton back. There he 4 is. Thank you, I'll be very quick. 5 REDIRECT EXAMINATION 6 BY MS. HARDY: 7 Mr. Eaton, with respect to Mr. Bruce's questions Q. on correlative rights, Novo hasn't proposed any wells in the 8 9 Second Bone Spring; is that correct? 10 Α. That's correct. 11 Will Mr. McQuien also offer testimony regarding Q. development issues and BTA's correlative rights? 12 13 Α. Yes, he will. 14 Okay. Those are all of my questions. Thank you. 0. 15 CHAIRWOMAN SANDOVAL: Thank you. Timewise still stands. We'll be back here at 3:15. 16 17 MS. HARDY: Thank you. 18 (Recess taken.) CHAIRWOMAN SANDOVAL: All right. It is 3:17, 19 welcome back. We will continue with your next witness, Ms. 20 Hardy. Reminder to everybody that it is 3:17 at this point. 21 And if we would like to finish today, the clock is ticking. 22 MS. HARDY: Thank you, Madam Chair. BTA's next 23 24 exhibit is Britton McQuien. 25

		Page 94
1		BRITTON MCQUIEN
2		(Sworn, testified as follows:
3		DIRECT EXAMINATION
4	BY MS. HARI	Y:
5	Q.	Can you please state your full name?
6	Α.	Britton McQuien.
7	Q.	Where do you reside?
8	Α.	Midland, Texas.
9	Q.	By whom are you employed and in what capacity?
10	Α.	BTA Oil Producers as the Permian exploration
11	manager.	
12	Q.	Your responsibilities include BTA drilling
13	activities	in southeast New Mexico?
14	Α.	Yes.
15	Q.	Are you personally involved in the development of
16	BTA's acrea	age that has been referred to as the Ochoa
17	acreage.	
18	Α.	Yes.
19	Q.	Are you familiar with Novo's applications in this
20	case?	
21	Α.	Yes.
22	Q.	Have you previously testified at a Commission
23	hearing?	
24	Α.	Yes.
25	Q.	Were your qualifications as an expert in
1		

Page 95 petroleum engineering accepted? 1 2 Α. Yes. MS. HARDY: Madam Chair, I tender Mr. McQuien as 3 an expert in petroleum engineering. 4 5 MR. BRUCE: I have no objection. 6 CHAIRWOMAN SANDOVAL: Any objection from the 7 Commissioners? 8 COMMISSIONER KESSLER: No objection. 9 COMMISSIONER ENGLER: No objection. 10 CHAIRWOMAN SANDOVAL: The witness is certified as an expert. 11 BY MS. HARDY: 12 13 Q. Mr. McQuien, can you please look at BTA Exhibit 14 25. 15 Α. Yes, got it. Q. Let me pull it up here. Can you please identify 16 17 that exhibit? Yes. This IS the comparison development plan of 18 Α. BTA and Novo. 19 20 Was the exhibit created under your direction and Q. 21 supervision? 22 Α. Yes. 23 Can you describe what's shown in the top left? Q. 24 Α. The top left is just a map locator showing 25 location of BTA's Ochoa unit, Novo's proposed Astrodog north

Page 96 unit and -- which is in the green box, and where they 1 2 overlap. It also references the type log. 3 And there's a type log on the left; correct? 0. 4 Α. Yes. The type log shows the different development (unclear) the Lower Wolfcamp A and B in blue and 5 б pink, Upper Wolfcamp resource including the Third Bone 7 Spring in yellow, Wolfcamp XY in green, and the Upper 8 Wolfcamp in red, as well as the Second Bone Spring in Orange and First Bone Spring in gray. 9 10 And what is shown in the center of the exhibit? ο. The center panel of the exhibit in the blue box 11 Α. 12 shows BTA's development -- development plan for the Ochoa 13 acreage. 14 And how is BTA planning to develop the Ochoa 0. 15 acreage? Our plan is to drill four wells in Lower 16 Α. Wolfcamp, wine-racking between the A and B, and then drill 17 two wells in the Upper Wolfcamp resource, and (unclear) 18 those wells in XY, and then drill two additional wells in 19 the Second Bone Spring Sand. 20 21 ο. Is Novo's proposal shown on the right? 22 It is. Α. 23 Can you describe Novo's proposal? Q. 24 Α. So Novo has proposed three wells in the Lower 25 Wolfcamp, and then nine wells in the Upper Wolfcamp

Page 97 resource, three in the Third Bone Spring Sand, three in the 1 2 Wolfcamp XY, and then three in the Upper Wolfcamp. And then while it's not part of this pooling application, they have 3 4 three well proposals in the First Bone Spring Sand which is shown in gray, in our BTA. 5 6 And, in your opinion, are there problems with 0. 7 Novo's plan? 8 Α. I think so. They are using way too many wells in the Upper Wolfcamp resource, which will cause each 9 10 individual well, impair the recovery of each individual well and basically spend too much money to develop these. 11 12 Do you believe that BTA's plan is superior to Q. 13 Novo's? 14 Yes. Α. 15 Q. Why? Our plan will fully capture the resources and use 16 Α. fewer wells to do it. 17 18 Is it your opinion that Novo's plan will impair Q. 19 BTA's correlative rights? 20 Α. Yes. 21 Q. Why? Drilling unnecessary wells results in each 22 Α. 23 well -- per well recovery dropping for each well developed, 24 so you end up with a much more returned project or you're 25 spending a lot more money than necessary to capture all of

1 the resources for the project.

2 Q. Mr. McQuien, can you please look at BTA Exhibit 3 26? 4 Α. Okay. 5 Can you identify that exhibit? Q. 6 Α. Yes. BTA Exhibit 26 is a comparison of Marathon, 7 which was the subject of the last hearing, as well as BTA 8 and Novo's development plan with BTA's plan in the middle, Marathon's plan on the left, and Novo's plan on the right. 9 10 Was this exhibit created under your direction and Q. 11 supervision? 12 Α. Yes. 13 Can you summarize the differences in Marathon's, Q. 14 BTA's and Novo's development plans? 15 Α. Yes. So BTA and Marathon are employing the wine rack strategy in the Lower Wolfcamp. Marathon relies on 16 17 three wells per half section, BTA is looking to drill four. While, while Novo also plans to drill three in the Lower 18 Wolfcamp (unclear) all three wells at the same point. 19 BTA plans to drill two wells in the upper 20 Wolfcamp resource in the XY Sand. Marathon is proposing 21 three wells in the Upper Wolfcamp resource in a wine rack in 22 23 the XY and upper shale or Upper Wolfcamp, while Novo is 24 proposing nine wells. Additionally, BTA and Marathon are -are planning on two wells in the Second Bone Spring Sand 25

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shown in orange. While at this point Novo has not made a
 proposal for the Second Bone Springs.

3 Q. What conclusions have you drawn based on this 4 comparison?

5 Α. Well, it's a, you know, we believe our development plan is right, you know, that BTA is -- we have 6 7 executed a number of developments in this area. Marathon has also executed a number of developments in this area. 8 9 Last hearing we debated in the Upper Wolfcamp resource whether we should be drilling two or three wells, and 10 meanwhile Novo has not executed a development in the Upper 11 Wolfcamp resource and has proposed nine wells. And also 12 13 that, you know, just BTA and Marathon -- or you see the Second Bone Spring is a definite (unclear) that needs to be 14 developed. At this point Novo not (unclear) 15

16 counter-proposals.

Q. Is it your opinion that if Novo and Marathon's applications are granted, BTA will be forced to do two development plans (unclear) and violate BTA's correlative rights?

A. Yes. You know, I have seen on some earlier exhibits, and it's also shown in (unclear) the subject of these two hearings would split BTA's Ochoa unit or JOA unit into two different units, and those two units are different between themselves.

Page 100 Mr. McQuien, can you please look at BTA Exhibit 1 Q. 2 Can you identify that exhibit, please? 27. The one in our exhibit book is kind of --3 Α. Yes. 4 it's on the screen, so I will talk from the screen. This exhibit is a map showing -- focused on where the Upper 5 6 Wolfcamp developments are -- will (unclear). 7 And was the map created under your direction and Q. 8 supervision? 9 Α. Yes. 10 What does it show? ο. So first focus of this map, you know, we talked 11 Α. 12 about it in the last hearing, but it shows the location of a 13 side-by-side comparison of BTA's development plan with 14 Marathon's development plan. 15 It's a unique opportunity to make this side-by-side comparison of different development strategies. 16 17 And it's also an area, you know, the dates and the process 18 during the (unclear) process to develop these were completed within a year of each other, so it's a timely side-by-side 19 comparison. 20 21 I want to point out also that Marathon did not -did not complete their Bone Spring wells that they had 22 drilled after the first development. 23 24 Q. Mr. McQuien, can you please look at BTA Exhibit 25 28?

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1 A. Okay. I got it.

2 And can you identify that exhibit? Q. 3 This exhibit is from the previous map we Α. Yes. 4 were looking at the elements where we were able to look at -- make these side-by-side comparisons. That was in 5 mapview. This is now in a cross section view or gunbarrel 6 7 view. Once again, BTA's Ogden lease in lower right-hand 8 corner was developed with two wells per half section in the 9 XY Sand. 10 Immediately, the panel to the left of that, Marathon's Hermes lease outlined in purple, you know, it's 11 12 developed with five wells in this resource, including the 13 Third Bone Spring, XY Sand, and Upper Wolfcamp. 14 To the north of BTA's Ogden lease was Marathon's Mariner lease where they, at that point, based on I guess 15 area results, they stopped completing the Third Bone Spring 16 17 Sand and only went forward with the three well per half section development wine rack between the XY Sand and Upper 18 19 Wolfcamp. And they continued that pattern over onto the Trebuchet lease in the light blue and up to the (unclear). 20 21 ο. Was this exhibit created under your direction and 22 supervision? 23 Α. Yes. 24 And what are your conclusions based on the Q. 25 information contained in the exhibit?

Page 102 You know, this exhibit, you know it's nice that 1 Α. 2 we have this ability to make this timely comparison of all 3 of these development plans, it's really a unique laboratory 4 to be able to look at these development plans in a side-byside fashion and also get results on, you know, very timely 5 relationship. 6 7 And you know, I point out again that after one 8 plan where Marathon did complete the Third Bone Spring Sand wells, they ceased to complete those even after (unclear). 9 10 Q. In your opinion -- I'm sorry. Go ahead. 11 Α. 12 In your opinion, does the exhibit show that BTA's 0. 13 plan is preferable to Novo's. 14 Yes. And you know, we are able to compare two Α. 15 wells per half section, to three wells per half section, and five wells per half section, just keeping in the back of 16 your mind Novo's has proposed nine wells per half section. 17 18 Can you please look at your Exhibit 29? Q. 19 Α. Okay. 20 Can you identify that exhibit? Q. This is a chart labeled Upper Wolfcamp 21 Α. Yes. resource BTA versus Marathon. 22 23 Q. And was it created under your direction and 24 supervision? 25 Α. Yes.

1

0.

What does it show?

2 Α. So from the previous example of the gunbarrel diagram, this is a Cume oil versus time comparing BTA's two 3 4 wells per section, landing in Y Sand development, that's the Ogden. It shows that it is a -- has much better results 5 than the three-well per section development in the Trebuchet 6 7 and Mariner in light blue and gold, and then much better 8 results than the Hermes, the purple line, where five wells per half section were employed. 9

10And over there in the legend it also, the number11of parentheses, it's the number of wells per half section.

Q. What conclusions have you drawn based on the
 information contained in the exhibit?

A. You know, certainly once you get beyond two wells you start really seeing impairment of recovery of the Upper Wolfcamp resource in this area, and I believe two wells are sufficient to fully develop the Upper Wolfcamp resource in this area.

19 Q. And does this apply to Novo's applications in 20 these cases?

A. So, you know, we are looking at two versus three to see this sequential stepping down of performance from two to three to five, maybe not (unclear) in the, you know, offsetting the Ogden, nobody has tried a nine well per half section development, but I expect in side-by-side comparison

Page 104 another significant step-down from the Hermes. 1 2 Mr. McQuien, could you please look at BTA Exhibit Q. 3 30? 4 Α. Okay. 5 Can you identify that exhibit? Q. 6 Α. Yes. This is labeled Upper Wolfcamp Resource 7 Project Recovery Summary and it compares the previous 8 development. 9 Q. Did you prepare this exhibit? 10 Α. I did. What does it show? 11 Q. 12 Α. This exhibit shows that the one-year point, the 13 BTA two-well plan is as effective as Marathon's three and 14 five well plans, recovering -- basically the two well plan 15 is just recovering just as much as the three well per section or per half section development and even the five 16 well per half section. 17 18 Q. How does this information pertain to Novo. 19 Α. Once again, you know, Novo -- and Novo was relying on the Remuda except that they -- which is the most 20 aggressive plan out here and then added another well to that 21 to get nine wells. So but what we are seeing, at least in 22 23 the area for the Ogden, that two wells are sufficient and 24 nine is just way over the top to develop the Upper Wolfcamp. 25 What conclusion have you drawn based on this 0.

Page 105 1 exhibit? 2 Α. Well, Novo's development plan includes unnecessary wells and will result in impaired per well 3 4 recover, and as a result, I think it harms our interest and correlative rights. 5 6 Let's go to Exhibit 31. Can you identify that 0. 7 exhibit, please? 8 Α. Yes. Another cume oil versus time, BTA versus 9 Marathon XY. 10 Was this exhibit created under your direction and Q. 11 supervision? 12 Α. Yes. 13 What does it show? Q. 14 So this exhibit shows it's -- it's just a Α. 15 comparison of the XY landed wells to BTA's Ogden XY wells, which it's showing the three well per half section 16 17 development is being -- the XY wells that Marathon drilled are being impaired by the additional wells being drilled in 18 their half section relative to BTA's two wells per half 19 20 section. How does this information apply to Novo? 21 Q. I mean, they expect the impact to be even 22 Α. So. 23 worse, and you know, previously as has been suggested, if we 24 don't agree with some of the wells in the development plan, 25 we could always just go non-consent in those wells. I think

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1	this demonstrates that, you know, by going non-consent in
2	the wells we don't agree with, the wells that we do like to
3	participate in will be negatively impacted by the
4	over-drilling in the half section.
5	Q. And in your opinion, does that negative impact
6	impair BTA's correlative rights?
7	A. Yes.
8	Q. Mr. McQuien, I would like to ask you about Novo's
9	supplemental exhibits.
10	A. Okay.
11	Q. I believe it's Novo exhibit 32.
12	A. I got it.
13	Q. And have you reviewed those exhibits or Exhibit
14	32?
15	A. I have.
16	Q. Okay. Let's look at what's marked as Page 2.
17	A. Okay.
18	Q. Is the spacing at Remuda comparable to Astrodog?
19	A. I think on Exhibit 2, we don't have that
20	comparison here on Page 2 of the exhibit.
21	Q. What are your opinions on Page 2?
22	A. One thing I do want to point out, you know,
23	Mr. Hale talked about this 720-foot resource section, but if
24	you notice here, Remuda, from the Third Bone Spring landing
25	point to the lower landing point in the Wolfcamp A, that

Page 107 vertical distance is only 370 feet or about half of what 1 2 Mr. Hale referenced. 3 I have worked this area, you know, and I have 4 never seen anybody land a well in the upper portion of the Third Bone Spring, and I think most operators would not 5 6 consider it contributory, so I think the characterization as 7 a 720 foot thick reservoir unit is not (unclear) stated. 8 Let's look at the next page of the exhibit, Page ο. 9 з. 10 Okay. Α. 11 What are your opinions regarding the information Q. on that page of the exhibit? 12 13 So Novo testified earlier today that they Α. were -- that they viewed the Remuda project as the analogue 14 15 or how they would develop the Astrodog. I just want to point out there's some pretty significant differences. 16 17 First of all, Remuda is eight wells, Novo is planning on drilling nine wells. 18 And then Remuda has two wells in the Third Bone 19 Spring Sand, Novo has proposed three wells. Remuda has 20 proposed two wells in the Wolfcamp XY, Novo has proposed 21 three wells in the Wolfcamp XY. And then Remuda has four 22 wells in the Lower Wolfcamp A and talk about a 90 foot 23 24 vertical offset wine rack, whereas Novo has proposed three 25 wells all landed in the same TBD, according to their

Page 108 1 exhibit. 2 Okay. So (unclear) and Astrodog are not Q. 3 duplicates of each other; correct? 4 Α. They're not. I think, using Remuda, they're saying Astrodog is going to perform just like Remuda, they 5 6 are not even the same development plan at all. 7 Let's look at Page 4? Q. 8 Α. Okay. 9 In your opinion, is this page of the exhibit a Q. 10 fair representation? No. 11 Α. 12 Q. Why? 13 Α. First of all, this graph, it shows 60 months, but 14 there is only 20 months of actual data available. So really 15 only a third of this graph is based on drill data from both the Remuda North and south. And then, my -- in-well 16 17 interference or when you over-drill, the in-well interference becomes more apparent with time. As wells, you 18 know, continue to drain, the drainage radius around the well 19 gets bigger and bigger and bigger. 20 21 Well, you know, when you go to these tighter and tighter spacing, the gap between wells gets smaller and 22 23 smaller, and then the time to where they start interfering 24 with each other becomes much shorter in these more 25 aggressive development patterns, and at that point you start

Page 109 seeing the decline really accelerate. 1 2 So you know, Novo has put a projection one here out for 60 months, instead of, here's our forecast or what 3 4 we think will happen, but in realty, there's only 20 months with the first third of that real data. 5 6 0. Okay. Let's look at the next page of the 7 exhibit, Page 5, the last page. 8 Α. Okay. 9 In your opinion, is this information reliable? Q. 10 Α. No. 11 Why not? Q. 12 You got the Remuda North and Remuda South here, Α. 13 the Remuda South actually is performing a little bit better 14 than the Remuda North, and they compare to our Ogden 15 project, they take the Remuda South which is the better performing. 16 17 They also, what they are seeking to represent in 18 the Ogden, they were only including two wells which were, you know, the child wells, and I know that because these 19 were represented on the inside map as being drilled south to 20 That was the second set of wells we drilled in 21 north. Ogden, and they have not performed as well as the first two 22 wells we drilled there. 23 24 But, you know, this chart is basically taking the 25 best of the two Remuda units and compared it to the

Page 110 1 (unclear) of the two Ogdens. 2 Q. Do you have any other conclusions based on Novo's 3 Supplemental Exhibit 32? 4 Α. No. 5 Mr. McQuien, let's look at BTA's Exhibit 38. Q. 6 Α. Okay. 7 Can you please identify that exhibit? Q. 8 Α. Yes. It's a chart labeled Remuda North and Laguna Grande comparison. 9 10 And was this exhibit prepared under your Q. direction and control? 11 12 Α. Yes. 13 And what does it show? Q. 14 The first things it shows is when I take the Α. 15 results of all four of the BTA Ogden wells, and average them together, the individual wells at this point now are 16 outperforming the Remuda basin, both in the north and south. 17 18 Q. And what's the green curve? 19 Α. I'd like to get back to the green curve in a We need to look at a map to orient where we are. 20 minute. 21 Q. Is Exhibit 27 what you would like to look at? 22 Α. Yes. 23 Okay. And how does Exhibit 27 relate to Exhibit Q. 24 38? 25 Okay. So Exhibit 27, first thing to point out Α.

1 is -- this is a poor copy of it. You know, there's a ten 2 mile gap in, in our Remuda basin. The Remuda basin is the 3 set of wells back to the southeast of the Ochoa and north 4 Astrodog unit in Sections 24 through 36.

5 You know, Mr. Hale testified last week that there was some geologic differences just over the two-mile stretch 6 7 covering BTA's Ochoa acreage and Novo's Astrodog acreage. 8 So there is some differences in (unclear) pretty significant 9 geologic differences there over that two-mile stretch, I 10 think you have to concede that over the ten-mile stretch there is some significant -- there will be some significant 11 12 qeologic differences.

13 So if that were analogued (unclear) with BTA's 14 development plan relative to the Remuda would be Cimarex's 15 Laguna Grande completion, and that's located about three 16 miles to the west of the Remuda in Section 29.

17

Q. Okay. Go back to Exhibit 38.

Okay. So now on Exhibit 38, the Laguna Grande, 18 Α. which is a much closer comparison of an XY development to 19 the Remuda basin than Ogden is, that's the green light on 20 the chart. And at the end of the data for the Remuda units, 21 its recovery is approximately double. Also like to point 22 23 out that the slope of the Laguna Grande unit is 24 significantly higher than the slope of the Remuda unit, so 25 that's saying that gas will continue to grow with time.

Page 112 As time goes on, the average recoverable recovery 1 2 from the Laguna Grande will be (unclear) Remuda units. 3 And in your opinion, is Ogden the best analogue 0. 4 to the Ochoa development? 5 Yes. Α. 6 And we need to go back to Exhibit 27. 0. 7 Α. Yes. 8 And where is Ogden in relation to Ochoa? Q. 9 So the Ogden is located about five miles to the Α. 10 southwest of the Ochoa unit. As I mentioned before, I think the Ogden gives us a -- just gives us this opportunity to do 11 12 this side-by-side comparison of the development plans 13 between what BTA and Marathon did. 14 I do want to mention that the completion strategy 15 employees employed by BTA and Marathon were very similar. Some differences in performance between the projects are due 16 17 to the difference in the development plan and well spacing. 18 Q. In your opinion, why is the Ogden the best 19 analogue to Ochoa. Well, if you look just to the -- about a mile and 20 Α. a half west of the Ochoa, it's the pink box labeled BTA's 21 Pardue where BTA employed the same development plan that we 22 23 employed in Ogden and are seeing equivalent results on the 24 Pardue that we were seeing with Ogden. 25 Also wasn't to point out that that Pardue

development is the closest development to the Ochoa program
 about here we have to the value.

Q. What if you're wrong?

3

A. Well, I don't think I'm wrong because, like I
said, I've got a great laboratory, and then I've got a close
end development that's performing like in the laboratory,
but, you know, some data could come available where we could
identify that we are not recovering all the oil.

9 At that point BTA does have the option to drill 10 additional wells. And that's one of the big differences is, 11 with our plan, we can drill additional wells if we identify 12 unrecovered resources.

By Novo's plan they are taking the most aggressive development or (unclear) development program, execute it out in this area adding a well and wanting to simultaneously develop it, the problem with that is, once you do that, you know, if you over-drill there is no opportunity to get a refund on the wells that, you know, aren't recovering any incremental oil.

And additionally, you know, some of those wells are going to impact the other, you know, the necessary wells, and once those completions are done, you can't undo that harm to those wells.

Q. Mr. McQuien, can you please look at BTA 32.
A. Okay.

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Page 114 1 Can you identify that exhibit? Q. 2 Α. Yes. Exhibit 32 is a map of the Second Bone Spring development in this area. 3 ο. And was the map created under your direction and 4 5 supervision? 6 Α. Yes. 7 What does it show? Q. Well, you know, the main focus of this map, and 8 Α. 9 we showed it in (unclear) as well, is under the current development proposals out here, BTA is going to have 80 10 acres stranded, and it's shown in yellow on the -- in the 11 Second Bone Spring Sand. 12 13 Has Novo proposed any wells to BTA or provide 0. AFEs for wells in the Second Bone Spring? 14 15 Α. No. 16 Are any Second Bone Spring wells included in 0. 17 Novo's application? 18 Α. No. 19 Did you hear Novo's testimony that it plans to Q. 20 drill across the Road Lizard well and complete possibly a 21 Bone Spring well that way? 22 Α. Yes. 23 Do you think that's a good plan? Q. 24 No, I don't. Α. 25 Why not? Q.

Page 115 Well, to include the Road Lizard in the pooling, 1 Α. 2 you know, it's not like (unclear) an acreage. The Road Lizard has been producing for -- since 2012 and has depleted 3 4 the Second Bone Spring or created a significant amount of 5 depletion in that acreage. So Novo would be bringing 6 depleted acreage and trying to pool it with BTA's acreage that has not been. 7 8 Additionally, you know, that's a risky well, or I believe that's a risky well because you would have to drill 9 10 across the depleted fracture system from the Road Lizard which could lead to some losses while drilling and generally 11 12 create a very hazardous situation. 13 Did you hear Novo's testimony mentioning a Q. 14 potential north-south option? 15 Α. Yes. 16 And what do you think about that plan? ο. I'm certainly not in favor of that, either. 17 That Α. plan, you know, BTA's JOA acreage would account for half the 18 wells in that plan or half the interest in that, you know. 19 At that point we would be forced into -- my understanding 20 that that would be two north-south drilled wells in the W/221 of Section 8 starting from the north line, and first of all, 22 require a new drill island. 23 24 And then whereas right now BTA's, under our plan 25 we get to drill two mile and a half Second Bone Spring

Page 116 wells, while Novo pursues their north to south strategy, we 1 2 will then be three one mile Second Bone Spring Sand wells and also create another potential surface disturbance there 3 4 for that additional drilling line. 5 Q. So this plan requires more wells than BTA's plan? 6 Α. It would. And then I guess Novo would then still have to drill another set of wells to access their Second 7 8 Bone Spring Sand rights that's on the other side of the Road 9 Lizard. 10 Mr. McQuien, have the mile and a half wells Q. 11 operated by BTA been efficient and economic? 12 Α. Yes. 13 In your opinion, will the 1.5 mile horizontal Q. 14 wells that BTA plans to drill in the N/2 of Section 7 and 15 the NW/4 of Section 8 be efficient and economic? Yes. 16 Α. 17 0. In your opinion, will BTA's plans develop the 18 Ochoa acreage more fully and efficiently than Novo's plans? 19 Α. Yes. 20 In your opinion, would the granting of Novo's Q. 21 applications result in impairment of BTA's correlative 22 rights? 23 Α. Yes. 24 Can you please summarize the reasons. Q. 25 Α. BTA places a lot of value on our ability to

execute a development plan. You know, as has been referred to, Novo's plan would require a lot of unnecessary wells to drain the reservoir that would basically result in spending significantly more money to develop the project than what is necessary.

Q. In your opinion, would the granting of Novo's
application result in waste?

8 A. Yes.

9

Q. Why is that?

10 Once again, by executing or if they are able to Α. follow through with their plan to develop the Upper 11 12 Wolfcamp, they're using way too many wells, plus at this 13 point they don't have a plan for how they are going to 14 develop the Second Bone Spring Sand, and, you know, and the 15 options for BTA would either require more wells, you know, going from two, mile and a half wells to essentially three, 16 1 mile wells and then -- so --17 18 MS. HARDY: Thank you. Those are all of my questions. Madam Chair, I do move the admission of BTA 19 Exhibit 25 through 32 and 38. 20 21 MR. BRUCE: No objection, Madam Chair. 22 CHAIRWOMAN SANDOVAL: Any objections,

23 Commissioners.

24 COMMISSIONER KESSLER: No objection.25 COMMISSIONER ENGLER: No objection.

Page 118 CHAIRWOMAN SANDOVAL: Exhibits 25 through 32 and 1 38 of BTA are now admitted into the record. 2 (Exhibits BTA 25-32, 38 admitted.) 3 4 MS. HARDY: Thank you. CHAIRWOMAN SANDOVAL: Mr. Bruce, do you have any 5 6 questions? 7 MR. BRUCE: Yes, I do. 8 CROSS-EXAMINATION BY MR. BRUCE: 9 10 Now, I think in your Exhibit 38, the supplemental Q. 11 Exhibit BTA submitted, that exhibit comparing cumulative oil 12 production per foot from the Ogden unit to the two Remuda 13 units; correct? 14 That's correct. Α. 15 And on that exhibit is, on average, does the Q. 16 Ogden unit produce approximately 38 barrels of oil per foot at 500 days? 17 18 Α. Yes. 19 Q. Add two wells in the unit, that would be 20 approximately 76 barrels of oil per foot, just double; 21 correct? 22 That's correct. Α. 23 0. And the exhibit would also show on the two Remuda 24 units, eight wells produced approximately 31 barrels of oil 25 per day at 500 days?

A. Yes.

1

Q. So at eight wells, on those units they would produce approximately 248 barrels of oil per foot at 500 days?

5 A. I haven't done the calculation, but I will defer 6 to you on that.

Q. So that's 172 barrels of oil per foot at 500 days
of production that are less than the Remuda-like plan.
A. Well, that's what I testified to. The Ogden and
Remuda are ten miles apart. You know, if you look at the
Laguna Grande which is only three miles away from the
Remuda, it says closer to 60 barrels with 500, so --

Q. Okay. And let's look at -- I want to make sure I got the right exhibit for you, Mr. McQuien -- your Exhibit 27, which lays out the location and well units for some of the various wells, the Marathon wells and the BTA wells you are talking about?

18 A. That's correct.

Q. Now, the Marathon wells are always -- are all
1-mile wells -- 1-mile laterals are they not?

21 A. Yes.

25

Q. And the Ogden, BTA's Ogden wells are 1.5 mile
wells?
A. That's correct.

Q. Wouldn't that indicate that 1.5 mile laterals are

1 better than 1-mile laterals?

2 I -- the presentation I made was normalized back Δ 3 barrels of oil per foot, so it's -- you are trying to 4 normalize between 1.5 mile and 1-mile. The difference --5 Q. Well, yeah, I understand you are normalizing 6 production, but with BTA drilling the 1.5 mile laterals --7 the small print is killing me here -- the Ogden wells are in 8 Sections 29 and the N/2 of 32, you didn't have to obey that 9 330 foot setback at the south end of Section 29 and the 10 north end of Section 32, so you were able to penetrate much 11 more acreage and get better returns. Isn't that a fact? 12 Right. But on the comparison plot, since we are Α. 13 looking at it on a barrels of oil per foot, and you know, I testified there is quite a bit, the setbacks, I don't 14 15 believe, result in unrecovered oil. But, you know, since we are on a normalized barrels per foot basis, you know, you 16 can't -- you know, the comparison now is, the only 17 18 difference between the Marathon plan and the BTA plan is in 19 the well spacing and landing targets. 20 But given the opportunity would you -- would BTA Q. 21 rather drill 1.5-mile wells versus 1-mile wells? 22 Α. Certainly. 23 Or would you rather drill 2-mile wells rather 0. 24 than 1.5-mile wells? 25 Α. In this case, since I have 1.5 miles under a JOA

Page 121 executed very quickly, we can deal with the 1.5-mile that's 1 2 the --3 Well, that's not quite the question. Yes, you 0. 4 under normal circumstances have the right to drill those 5 1.5-mile laterals under a JOA, but if you had a 2-mile JOA, 6 would you drill 1.5 mile wells. You are correct, we would drill the 2-mile. 7 Α. In the generic sense, we would target for the 2-mile and set up 8 for a 2-mile. 9 10 And, you know, there's been a lot -- you have Q. 11 been involved in this, Mr. McQuien, I know, I have known you 12 for several years. 13 Α. Sure. 14 There's been a lot of talk about co-development 0. 15 of the Bone Spring and the Wolfcamp? Right. 16 Α. Isn't it correct that -- the interest in that 17 0. has -- it's really fairly recent, isn't it, especially in 18 19 the last couple of years? Co-developing the Third Bone Spring in the --20 Α. 21 With the Upper Wolfcamp? Q. With the upper Wolfcamp. 22 Α. 23 Q. Yeah. 24 You know, I would say, back to exhibits 27, you Α. 25 know, Marathon, you know, spudded these. It's been about

Page 122 two and a half years, and we are starting to see a lot of 1 2 other developments come in where they are not including 3 Third Bone Spring Sands. So, you know, yes, you are seeing 4 some Third Bone Spring and Upper Wolfcamp, so --5 Q. And now on -- continue if you have something else 6 to say. I don't mean to interrupt you. 7 Α. No, I was passing the question back to you. 8 Okay. Thanks. But if there is a parent-child Q. 9 relationship between Lower Third Bone Spring and the Upper 10 Wolfcamp, isn't it necessary to drill those wells more or 11 less at the same time --12 Α. Well --13 -- and complete those wells more or less at the Q. 14 same time? 15 Α. Well, let me say, the argument for it is you will have an efficiency loss by -- in the completion by not 16 17 co-developing those intervals at the same time. 18 Q. And -- okay --I would debate how severe that case would be. 19 Α. You know, we drilled a lot of developments, and you know, 20 were 80 -- actually were 84 wells in New Mexico, we just 21 completed four more this week, and quite a few in Texas. 22 So 23 we have seen the parent-child relationships in our 24 developments I would say more often than not. So those 25 events are neutral, but the effect of over-drilling and

Page 123 drilling wells that don't result in any incremental 1 2 recovery, that's always negative, and you can't remedy that 3 in any way, shape or form. 4 0. So if you drilled -- and I suppose it doesn't 5 matter which one you drilled first, if you drilled Upper 6 Wolfcamp first, and -- as BTA is proposing to do; correct? 7 We are drilling the -- well, Phase 1 of our Α. 8 development is the Lower Wolfcamp. 9 Okay. If you are drilling that, you are also Q. 10 going to do the Upper Wolfcamp, won't you? Yeah, that will be in another phase. 11 Α. 12 Okay. But if you drilled the Upper Wolfcamp, 0. 13 whenever that may be. 14 Α. Uh-huh. 15 And then because of various reasons, including 0. 16 our friends at the BLM not approving APDs for 12 plus months 17 after you drill the Upper Wolfcamp and you filed for Lower 18 Third Bone Spring wells, wouldn't that have a negative 19 affect on the parent-child effect? In our experience it -- I wouldn't necessarily 20 Α. say that. Like I said, most of the time, which I don't know 21 if you call it the parent-child effect like a frac is where 22 23 it turns out, you know, it ends up being pretty neutral. We 24 will see the parent well get, you know, a fresher way to go 25 to a high water for a temporary amount of time and then turn

Page 124 back to its pre decline, and the child well very often comes 1 2 on to (unclear). You know, and like I said, if you drill a 3 well that's not needed, that money is gone from the 4 beginning and there is no getting a refund. 5 Q. Is there -- is there -- see how to phrase this --6 is the Third Bone Spring zone over near Ogden units any 7 different from the Third Bone Spring and the Astrodog and 8 Remuda prospects? 9 Without having a log in front of me both areas, I Α. 10 wouldn't -- I'm not going to speculate on the (unclear). 11 In the Ogden, there were, what, two wells in the Q. W/2 and two wells in the E/2? 12 13 Α. Yeah. 14 And the E/2 wells were better than the two wells 0. 15 in the W/2; is that correct? That's correct. 16 Α. 17 0. And the E/2 wells were drilled first? 18 Α. That's correct. 19 Q. So even though it's only in the Upper Wolfcamp, 20 ignore the Third Bone Spring, the W/2 Ogden were worse 21 because they also suffered from the parent-child 22 relationship? Well, no, I -- the parent-child, I don't think 23 Α. 24 we -- we have ever established what is a good definition of 25 a parent-child effect. I think Dr. Engler last week tried

Page 125 to allude to, you know, loss of efficiency or frac 1 efficiency in the changing of a stress field due to an 2 existing SRB. But in the case of the W/2 Ogden, I believe 3 4 that, you know, those wells, we call the child wells are, you know, they were just seeing some drainage from the, from 5 6 the Ogden E/2 wells, and then the, you know, Hermes wells 7 that, you know, in the section to the west of us. 8 So you know, it -- just because the second set of wells performs poorer relative to the first set of wells, 9 10 that's potentially just drainage. A big part of my concern here is that the Ogden, if we are seeing some depletion and 11 12 drainage in this child unit, you know, with two wells in our 13 E/2 unit, I mean, if you go to nine wells per half section, 14 you know -- you know, that could be very damaging. 15 Yeah. And, Mr. McQuien, in another lifetime I 0. 16 used to be an engineer, and the more data you get the 17 better, isn't it? 18 Α. I will agree with that. In 25 years we can get 19 what will be (unclear). 20 Now, like I indicated before, I have known BTA Q. for a long time. They are a good, low-cost operator, aren't 21 22 they? 23 Α. We are. 24 And you will want to keep your AFE costs and your Q. 25 actual drilling costs as low as possible?

Page 126 1 Α. Yes, we will. 2 Q. Do you do science on the wells, special logs, et 3 cetera, or very often or what? 4 Α. We have gathered some of the higher-end data. 5 Okay. Not on every well? Q. 6 Α. Not on every well. 7 And do you run open hole logs? Q. Typically our, our procedure has been, if we have 8 Α. a like 40-acre tract where we don't have an open hole log, 9 you know, at least completely covering the Bone Spring and 10 we are drilling a vertical section that penetrates it, we'll 11 qo ahead and obtain --12 13 Okay. So, so not very often, but just when you Q. 14 need data in a particular area. Is that fair to say? 15 Α. That's a fair characterization. 16 And is there rig time associated with logging Q. 17 wells. 18 Yes. Α. 19 Q. And if you don't need to do it, you don't, you 20 you avoid it. Is that safe to say? 21 Α. Yes. 22 And you don't -- you want to avoid unnecessary Q. 23 costs while drill and completing the wells? 24 Α. Yes. 25 And maybe I should have asked the -- Mr. Eaton 0.

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1	this, but when you're drilling and completing wells, the
2	cost you might not know the cost of a drilling pad, if
3	you don't, that's fine but do you spread around the well
4	cost to each individual well?
5	A. I'm not sure how to answer that question.
6	That's for how the cost gets allocated back to each well
7	on a pad, I would have to defer that question back.
8	Q. Okay. Well, thanks. But, but generally pad
9	location is chosen to maximize development and minimize
10	costs. Would that be fair to say?
11	A. That's fair.
12	Q. Now, do you usually use one pad per spacing unit
13	or do you do multiple wells from a larger pad?
14	A. You know, it I mean, it's project specific.
15	Q. Okay. I understand. And just a couple more,
16	just a couple more, Mr. McQuien. I'm just checking my notes
17	here. Another thing, have have whatever time frame
18	you want to look at, two, three, five years, have drilling
19	and completion techniques improved over that time period?
20	A. Drilling and completion techniques, yeah, there's
21	been a lot of advance in the last several years.
22	Q. And just as a general question would you when
23	you are drilling a well, would you drill a half a mile of
24	dead hole if there was a more efficient way to develop your
25	acreage?

Page 128 Well, I'm the exploration manager. No, if you 1 Α. don't have to drill a half mile of dead hole, you know, 2 nobody would want to do that. 3 ο. I think that's all I have, Mr. McQuien. 4 Thank 5 you. 6 Α. All right. Thank you. 7 CHAIRWOMAN SANDOVAL: Thank you. Do the 8 Commissioners have any questions? 9 COMMISSIONER ENGLER: Hello, Mr. McQuien. 10 THE WITNESS: Hello. 11 COMMISSIONER ENGLER: Two real quick questions, and I think I asked this question last week, and I forgot 12 13 the answer. I know the Pardue lease is very close to the Ochoa; right? 14 15 THE WITNESS: That's correct. 16 COMMISSIONER ENGLER: And I don't remember, why did you not use that lease or that data as a part of your 17 18 analysis. THE WITNESS: Well, like I said, you know, the 19 20 exercise here was wanting to compare BTA's development plan using the two wells and have the side-by-side comparisons. 21 22 The Pardue, which is the step up there, and there really isn't anything side by side to compare it to. So it's just 23 24 Ogden laboratory the Pardue is performing equivalently to 25 the Ogden and then the jump is too high.

Page 129 COMMISSIONER ENGLER: Now that you said it, that 1 2 might be what you said last week, so you are consistent, thank you. One other quick question on your Exhibit BTA 38, 3 4 that Laguna Grande example, where is that? 5 THE WITNESS: Okay. If you go back to Exhibit 27 --6 7 COMMISSIONER ENGLER: Yes, I've got it. 8 THE WITNESS: That well is in Section 29, Township 23 South, Range 29 East. 9 10 COMMISSIONER ENGLER: 29, 23 South, got it. Thank you. 11 12 CHAIRWOMAN SANDOVAL: Do you have any redirect, 13 Ms. Hardy? 14 MS. HARDY: Just a very quick question. 15 REDIRECT EXAMINATION BY MS. HARDY: 16 17 0. Mr. McQuien, Mr. Bruce asked you a number of 18 questions about BTA's use of data and logs. Do you recall 19 those questions? 20 Α. Yes. 21 Q. And if BTA believes it needs those logs and data 22 regarding the wells it will obtain them? 23 Α. I'm sorry, what was the last part? 24 If BTA believes that it needs additional log and Q. 25 data regarding a well it's drilling, does it obtain them?

Page 130 1 A. Yes. 2 MS. HARDY: That's my only question. Thank you. 3 CHAIRWOMAN SANDOVAL: Thank you. Mr. Bruce, would you like to make a closing argument? 4 5 MR. BRUCE: Excuse me, my phone cut out for a 6 minute, Madam Chair. 7 CHAIRWOMAN SANDOVAL: Would you like to make a 8 closing argument? 9 MR. BRUCE: Well, I would like to put on some rebuttal evidence. 10 CHAIRWOMAN SANDOVAL: Okay. We can allow 11 12 rebuttal evidence if you keep it to 15 minutes. 13 MR. BRUCE: Oh, boy, well --14 CHAIRWOMAN SANDOVAL: 20? MR. BRUCE: I will try my best, Madam Chair. I 15 would first like to -- some of these questions are yes or no 16 17 answers, so I will ask my witnesses to be short and sweet. CHAIRWOMAN SANDOVAL: Okay. Ms. Hardy, do you 18 wish to do any rebuttal witnesses? 19 20 MS. HARDY: Not at this time. 21 CHAIRWOMAN SANDOVAL: Thank you. 22 All right, Please proceed, Mr. Bruce. 23 2.4 25

	Page 131
1	BRANDON PATRICK
2	(Previously sworn, testified as follows:)
3	DIRECT REBUTTAL EXAMINATION
4	BY MR. BRUCE:
5	Q. Call Mr. Patrick back. Are you there,
6	Mr. Patrick?
7	A. Yes, I'm here.
8	Q. And you were previously sworn and qualified;
9	correct?
10	A. Yes.
11	Q. Let's just keep it short and sweet. You know,
12	BTA's engineer testified that Novo would strand stranded
13	40 acres in the Rana Salada 0504 unit. Is that 40 acres
14	permanently stranded?
15	A. No, it's not. In fact we are currently rigging
16	up to drill the infill wells in Rana Salada 0504, and one of
17	the wells we will be drilling in that unit is going to go
18	past the 234 H wellbore and access that 40-acre tract, so
19	it's definitely not stranded. We are going to develop it.
20	Q. And there was testimony about Novo's plans on
21	drilling tangents in the $S/2$ of Sections 8 and 9. Any
22	comments?
23	A. Yes. Those are the most extreme wells that we
24	will drill in our development plan, and there is no
25	guarantee we are going to be successful in doing that. I

Page 132 hate saying that because it's such an extreme -- those are 1 2 extreme wells we would have to drill, but luckily we are 100 percent interest owner. We bear that risk on our own. 3 4 But it's not just a foregone conclusion that that's going to go off without a hitch, and we want to 5 6 educate -- or the purpose of our testimony is to raise the 7 concerns that we have in this hearing about drilling big 8 tangents. Yes, we are willing to do it when we have 9 absolutely no other option, and we don't have any other 10 option in the S/2 of Astrodog, but we have on option in the N/2 of Astrodog. 11 12 The option is allow Novo to drill 2-mile wells 13 the way we proposed. That would absolutely avoid the risk 14 that we have raised in this hearing. 15 0. And this talk about BTA testified or Novo 16 misrepresenting its plans to the OCD, any comment? 17 Α. That's absolutely not true. We have been permitting every well we proposed in any one of the pooling 18 orders that have been granted to Novo. 19 That's just misleading and disparaging to our reputation, and I'm not 20 going to have it. 21 22 We have been permitting every well that we have 23 proposed. We are pursuing every one of those development 24 plans vigorously, and whenever we get the other --25 whenever -- sometimes we still try to the work with the

other parties like we did with Oxy in executing our JOA even after we get a pooling order. That's shows a good-faith effort to work with the other pooled parties. We didn't have to, but we did.

Q. And BTA, you notified BTA about the onsite for
the Astrodog development area; correct?

A. Yes, we did. We didn't have to -- well, we did technically under the rules, yes, we did, but the BLM is the one that typically sends out the notices. They did send out the notice for the Astrodog onsite. I'm aware of other onsites where the BLM sends it out. We told BTA ourselves because we thought that was the courteous thing to do.

Q. And do you disagree with Mr. Price that Novo and
BTA didn't have an agreement to jointly talk to the BLM?

A. Absolutely. He looked at me square in the face, across the table in our office and we agreed that we would jointly go to Jim Rutley. We followed up two weeks later. We followed up two weeks later because Willis said, "Let me go talk to my engineer and then I will follow up with you and we can jointly talk to Jim Rutley."

And two weeks passed. He didn't say anything to us. We reached to say, "Have you had a chance to talk to your engineer?" That's whenever Willis revealed that he went behind our backs and talked to the BLM ex parte communication with them without our knowing, and I thought

that was completely in violation to our agreement. It also
 showed me they don't act in good faith.

3 Q. Yes or no, did BTA show up late to the onsite for 4 the Astrodog?

A. Absolutely, and I don't know why this is
controversial --

7 And it really wasn't their fault, was it? Q. 8 Α. No, it wasn't. They said, they showed up three hours late, and they stood on the side while we were out 9 10 there with the BLM. Willis Price was the only one that walked around with us. They brought about seven or eight 11 12 people and the rest of the people stood on the side during 13 the onsite and they said that there was a big wreck on the 14 highway which caused them to be about three or four hours 15 late. And I don't know why this is controversial, but it's just a fact. 16

Q. And Novo does have plans to develop the Second
Bone Spring; is that correct?

A. Absolutely. And it also mirrors what -- I don't have enough time to explain it all here, but basically it absolutely mirrors -- the primary point of drilling perpendicular to the Road Lizard is exactly what BTA had to have -- the same plan that BTA had to have had whenever they asked us to cut our Second Bone Spring wells in the E/2 E/2 of 5, and the E/2 E/2 of 8 short in alpha Section A, there

1 is whole --

2	Q. So they could drill east-west?
3	A. Yes. Because (unclear) Section 8 is under water,
4	the southeast part of Section 5 is under water, there is no
5	way they could access the $E/2 E/2$ of 8 other than drilling
6	perpendicular to Road Lizard. To present a claim that our
7	plan is bad to drill east-west, that just it's
8	infuriating because that had to have been BTA's plan.
9	Q. And regarding the Rana Salada 0504, and Novo not
10	having all of it permits to drill all of its wells, was
11	there a lease expiration issue in the Rana Salada 0504?
12	A. Yes. Marathon was a party to the Rana Salada
13	0504 unit. There is a fee lease that was, I think it was
14	200 acres inside of our pooled unit, and Marathon had an
15	expiration in February of 2020. And we told them that we
16	would start drilling our well before that to perpetuate
17	their lease.
18	And I want to also note that Novo was the mineral
19	owner to that lease. It would have been in our best
20	interest to let that lease expire, but that's not good
21	faith. And I think that that's something that should be
22	raised here, that Novo would have been (unclear) for letting
23	that lease expire, but we didn't because that's not what you
24	do with your working interest owners in your pooled unit.
25	Q. And you are still waiting for some APDs up in

1 those general areas?

A. Yes. We submitted every APD for every well we
had proposed and it was on those orders referenced earlier
during BTA's testimony.

Q. And during Marathon's, the Marathon's case, did you hear Mr. McQuien testify that BTA doesn't take into consideration lands outside of their spacing unit when they are putting together a development plan?

9 Α. Yes, I did. And frankly, that's just -- it's kind of amazing because it's in the potash area, and Willis 10 Price testified earlier there is a jigsaw whenever you are 11 trying to look at how some development areas could impact 12 13 other development areas. But it seems like BTA only cares about their own interest, and they don't care about the 14 effects, the negative effects that their development would 15 16 have on offsetting operators, either.

Q. Okay, just a couple more. And Mr. Price testified about sending the well proposals to you after -for control wells (unclear) to reaching a settlement with TDY regarding the northeast of 8 and S/2 of 9. What's the significance of that?

A. Well, I think that goes hand in hand with the statement I just made regarding Mr. McQuien's testimony. They don't care about units that are not theirs. Well, in Section 8 and 9, as we know and as Mr. Price testified, BTA

Page 137 claimed title to those minerals. But then they negotiated a 1 2 settlement with TDY where they would give up that claim. 3 They gave up the interest that they now are harming, they 4 gave it up and they don't care because they don't own an interest, as Mr. McQuien said. 5 6 MR. BRUCE: Thank you, Mr. Patrick. I pass the 7 witness. 8 MS. HARDY: I have no questions, thank you. CHAIRWOMAN SANDOVAL: Commissioners, do you have 9 10 any questions? 11 COMMISSIONER KESSLER: No questions. 12 COMMISSIONER ENGLER: No questions. 13 MR. BRUCE: And then I would like to call next 14 Alex Bourland, Novo's operations engineer. 15 CHAIRWOMAN SANDOVAL: Mr. Bruce, what is the purpose of your next witness? What testimony is he going to 16 17 provide that has not already been provided? MR. BRUCE: He is going to -- he is going to 18 testify experience in drilling multi-pad wells. He is going 19 to talk about the length of the tangents that is different 20 to what BTA refused to answer in my questions and the length 21 of the tangents. 22 23 CHAIRWOMAN SANDOVAL: Okay. You may expressly 24 limit it to that comment. 25 MR. BRUCE: Okay.

	Page 138
1	ALEX BOURLAND
2	(Previously sworn, testified as follows:)
3	DIRECT REBUTTAL EXAMINATION
4	BY MR. BRUCE:
5	Q. Mr. Bourland, you are still under oath, I want
6	you to understand that.
7	Mr. Bourland, do you have experience drilling
8	multi-well pads in this area?
9	A. Yes, sir. Have planned and executed multi well
10	Wolfcamp developments within the five-mile radius.
11	Q. And is Novo right now drilling multi-well
12	development pad in this area?
13	A. Yes, sir. We have an active drilling rig in one
14	location and a spudder rig on another.
15	Q. Okay. And does Novo plan on drilling that rig to
16	Astrodog?
17	A. As soon as the permits are available, we would
18	like to move to Astrodog, that's correct.
19	Q. And you have already talked about the risks by
20	drilling the increased risk of drilling tangents and
21	drilling costs. Have you researched BTA's wells in New
22	Mexico and Texas horizontal wells?
23	A. Yes, sir, I have.
24	Q. What is the longest tangent that BTA has drilled?
25	A. According to public data, it's 135 well data set,

Page 139 1 they have drilled a 1450 foot nudge. 2 And what is the average? Q. 3 Α. They average a nudge distance of 540 feet. 4 0. And that's not as intense as the tangents they want Novo to drill; is that correct? 5 6 Α. No, sir. The longest BTA public data history is 7 half of what they are recommending for 16 -- up to 16 8 northern half Astrodog laterals. 9 With BTA's proposed layouts, how many wells would Q. 10 be in excess of 2500 feet in the N/2 of the development? We would be at approximately 16 wells, 11 Α. 12 essentially every lateral that we drill in the N/2 would 13 have to take on a 2500-plus nudge to reach the curve section 14 of that well. 15 And could you, finally could you please explain 0. the orbital value issue and mud weight, et cetera, on such 16 17 issues, and I think that has to do with --18 MS. HARDY: I object to that question as being 19 beyond the scope of direct, the rebuttal. MR. BRUCE: I would disagree. They criticized 20 Novo for not completing the well, and they blamed it on 21 Novo. And -- go ahead. 22 MS. HARDY: It's beyond the scope of what Mr. 23 24 Bruce identified as topics that would be addressed by his 25 witness.

Page 140 CHAIRWOMAN SANDOVAL: You said you would talk 1 about the laterals, so stick with that. 2 3 MR. BRUCE: Okay, Madam Chair. I will rest on 4 our prior testimony on that issue. Mr. Bruce, I have one item I would like to 5 Α. 6 address regarding the pythagorean theorem. 7 Which diagram? Q. Α. The diagram --8 9 CHAIRWOMAN SANDOVAL: Mr. Bruce, you have to ask 10 the question. It's not through --11 Q. Okay. I do have a question. You know, BTA's 12 engineer testified that the pythagorean theorem, he 13 calculated the Novo step-up in the Astrodog is 25 and, I 14 think, 42 feet. Is that accurate? 15 Α. He did testify that that was the Novo nudge distance, and I would like to just take a second to correct 16 his calculation. The pythagorean theorem is used to 17 18 generate the hypotenuse of a triangle. You take your north-south distance and east-west distance, you square both 19 of those and then add them together and then take the square 20 root. The resulting number is your step-out distance. 21 22 Calculated to our kick-off point from our surface hole location, Novo calculates a distance of 2200 feet. 23 24 BTA's drilling manager falsely reported that our nudges to 25 the S/2 of Section 8 would be roughly equivalent to the

Page 141 nudges they are proposing in the N/2, where, in fact, there 1 is roughly a 500 foot increase for the nudge distances that 2 3 BTA has proposed. So I just wanted to correct that 4 calculation. 5 Q. Okay. Thank you, Mr. Bourland. 6 MR. BRUCE: I pass the witness. 7 MS. HARDY: I have no questions. 8 CHAIRWOMAN SANDOVAL: Commissioners, do you have 9 any questions? 10 COMMISSIONER KESSLER: No questions. COMMISSIONER ENGLER: No questions. 11 12 CHAIRWOMAN SANDOVAL: Thank you. 13 MR. BRUCE: Finally, Madam Chair, and this would 14 only take about two minutes, I would like to recall Mr. Hale 15 to the stand. CHAIRWOMAN SANDOVAL: We will hold you to that 16 17 two minutes. 18 MICHAEL HALE 19 (Previously sworn, testified as follows:) DIRECT REBUTTAL EXAMINATION 20 BY MR. BRUCE: 21 22 Mr. Hale, you are still a sworn witness. Looking ο. 23 at BTA's Exhibit 27, Mr. McQuien gave some testimony 24 regarding the Trebuchet and Ogden units in 23, 28. Would 25 you develop that area the same way you are proposing

1 Astrodog?

A. No, I wouldn't. As a matter of fact, there is a significant change in the circumstance really between -- in the Astrodog and our Goonch unit which is why we don't have intention of drilling a Third Bone Spring in Goonch. So that's exactly, I think, like five miles west, and their Trebuchet -- I'm sorry -- the Trebuchet is a few miles south and west of there.

9 So point being that I actually wouldn't 10 necessarily disagree that you would drill the XY and A 11 there, but not the Third Bone Spring. So I don't think it's 12 an entirely analogous -- you know, it's not analogous 13 geologically.

14 Q. Not to the Astrodog?

A. Not at all. The Astrodog is an incredibly -- it is top-tier reservoir, and the geologic trends in Astrodog carry down into Remuda which is why we feel confident we will see similar results.

19 ο. Okay. Finally, Mr. McQuien said something about 20 the Third Bone Spring, Wolfcamp XY and Wolfcamp A flow as 21 720 feet. That is misleading. Do you agree with that? No -- I'm sorry -- yes, I do disagree with that. 22 Α. 23 He is absolutely right that people don't drill in the Upper 24 Third Bone Spring. The target interval is in the lowest 25 Third Bone Spring, but that does not mean that's not part of

Page 143 1 the flow unit. The Upper Third Bone Spring still absolutely 2 contributes. 3 As soon as we even enter the Third Bone Spring 4 interval we see an increase and gas oil shows when we drilling through it. So it's an oil saturated reservoir, 5 6 and it's absolutely part of a flow unit. But it's also that 7 Upper Third Bone Spring is really what makes that reservoir 8 work. 9 So there is a difference between that Upper Third 10 Bone Spring in the Astrodog and Remuda area in the Trebuchet which is why I was saying that that reservoir changes and we 11 12 wouldn't develop it the same way. But to say it's not part 13 of the flow unit is just not correct. 14 Given an opportunity, would November rather drill 0. 15 2-mile wells than 1.5 mile wells? Yes. 16 Α. 17 0. Forget the tangents, forget the tangents? 18 Α. Yes, absolutely. 19 Q. Thank you, Mr. Hale. MR. BRUCE: Thank you, Madam Chair. I pass the 20 witness to Ms. Hardy. 21 22 MS. HARDY: I have no questions. 23 CHAIRWOMAN SANDOVAL: Commissioners? 24 COMMISSIONER KESSLER: No questions. 25 COMMISSIONER ENGLER: No questions.

Page 144 1 CHAIRWOMAN SANDOVAL: Great. Mr. Bruce, would 2 you like to make a brief closing statement? MR. BRUCE: I will do my very best, Madam Chair, 3 4 and I have a couple of pages, and I will whittle it down. 5 It is the duty of Commission and the Division 6 under the Oil & Gas Act to prevent waste and protect correlative rights. Novo's plan in conjunction with 7 8 Marathon's plan does just that. 9 Insofar as waste goes, there are three types, 10 economic waste, and Novo's and MRO's plans minimizes the number of vertical wellbores to be drilled in these three 11 12 sections of land. With -- with Novo's plans and Marathon's 13 plans approved, it will be about 30 wellbores roughly at 14 this time. If you took all three company's wells, it would 15 be 40 wells, which means there would be an extra \$20 million 16 in vertical well costs. That's waste. Surface use, BTA's 17 plan would also recall -- require extra surface use. And 18 physical waste or underground waste, BTA's plan with respect 19 to Novo maximizes drilling issues such as collision and 20 casing collapse. And BTA would require Novo to drill 21 dangerous tangents, and we believe that is not required. 22 23 In connection with Novo's better drilling plans 24 co-developing Third Bone Spring in the Upper Wolfcamp and 25 drilling all productive zones, Novo's plan maximizes

Page 145 recovery. Novo has approved -- an approved DA development 1 2 area from the BLM and is awaiting APD approval. 3 Once its APDs are approved, it will drill 4 promptly. It currently has a drilling rig in the area. BTA in the Marathon case complained that Marathon was not 5 6 currently drilling, however Marathon has a drilling area, 7 and since BTA has no approved drilling area nor approved 8 APDs, the chances of BTA drilling are being pushed probably 9 into the next year whereas Novo can drill almost 10 immediately. Along these lines it is important that Novo is 11 permitting the maximum number of wells so it can drill both 12 13 the Spring and Wolfcamp wells promptly and completely. 14 And finally, this lack of good faith discussions, 15 whether you are looking at BTA-Marathon, BTA and Novo, I understand BTA's position. I have clients in the same 16 17 position as BTA, but the fact of the matter is, BTA simply wanted to drill its JOA acreage and did not negotiate with 18 either Marathon or Novo. To say that because they didn't 19 want to negotiate, Novo or Marathon did not conduct good 20 faith negotiations is not correct. 21 22 And in short, if Novo's applications are not 23 granted, it's at risk of losing everything, having its 24 correlative rights affected, and to the contrary, Novo's 25 plans in connection with Marathon's plans protect BTA's

1 correlative rights. Thank you.

2 CHAIRWOMAN SANDOVAL: Thank you. Ms. Hardy, 3 would you like to make a brief closing statement? 4 MS. HARDY: I will be very brief. I just wanted to highlight the reasons Novo's applications should be 5 denied. 6 7 Novo's argued extensively that pooling is its 8 only viable option to develop this acreage. BTA's witnesses 9 and exhibits have shown that's not correct. The tangent is 10 a viable and economic way for Novo to develop its acreage without impairing BTA's correlative rights. 11 12 BTA has also addressed issues relating to 13 collision risk and established the acreage can be developed 14 without collision risk. Novo's applications should be 15 denied also because BTA acquired its acreage first and had commenced a development plan before Novo, and Novo acquired 16 17 its acreage with knowledge of the surface restrictions. The timing of efforts to develop acreage is relevant in 18 19 evaluating competing proposals. BTA also holds a greater interest in its spacing 20 unit than Novo holds in its spacing unit. It does not have 21 to pool its acreage to develop it. BTA is ready to go. 22 BTA 23 is an experienced and prudent operator that is able to 24 prevent waste. While BTA has expressed concerns and 25 provided exhibits regarding Novo's track record and less

Page 147 experience in New Mexico developing wells, and specifically 1 multi-pad well operations. BTA's development plan is 2 superior to Novo's and will more efficiently recover the 3 4 reserves underlying BTA's acreage, and that's been discussed 5 extensively by Mr. McQuien and shown in his exhibits. Novo's applications should be denied because 6 7 BTA's JOA should be honored and enforced under New Mexico 8 law. Novo's applications should also be denied because BTA 9 is able to timely locate wells and is ready, able and 10 willing to commence drilling operations once the cases are resolved, while Novo has been delaying its drilling of other 11 12 wells as we have shown in our exhibits. 13 In addition, Novo's geoscientist, Mr. Hale, 14 admitted that the proposed units include varying acreage 15 that is not equivalent. And to pool acreage an applicant must establish that each quarter-quarter section will 16 17 contribute more or less equally to production. That's another reason Novo's application should be denied. 18 Mr. Hale also testified that Novo may not drill 19 all the wells it proposed, it just wants to permit them in 20 case it decides to drill them and that's not an appropriate 21 basis on which to grant a pooling application, especially 22 23 when it would preclude BTA from developing the Ochoa 24 acreage. 25 Finally BTA provided testimony and evidence

Page 148 regarding Novo's negotiation and that it was not in good 1 faith prior to pooling. So for those reasons, Novo's 2 applications should be denied, and BTA should be permitted 3 4 to proceed with developing its Ochoa acreage. Thank you 5 very much. 6 CHAIRWOMAN SANDOVAL: Mr. Bruce, would you like 7 to provide rebuttal? 8 MR. BRUCE: Just briefly. Mr. Hale did testify 9 in his direct that each quarter section or quarter-quarter 10 section would contribute more or less equally to production. Other than that, nothing. 11 12 CHAIRWOMAN SANDOVAL: Thank you. With that, it 13 is 4:48. We will close the record on the screen and the 14 Commissioners will begin deliberating. 15 The record is now closed. The Commission will immediately deliberate so as to reach a final decision on 16 17 behalf of the application. Pursuant to the administrative adjudicatory deliberation exception (unclear) Section 18 10-15-1H3, the commission may deliberate in closed session, 19 an open meeting be closed pursuant to the administrative 20 deliberations exception of NMAC Section 10-15-1H3, to 21 deliberate in Case Number 20571, 20572 and 20574. Is there 22 23 a second? 24 I take back the numbers. It's 20573, 2057 --25 Okay, I take it that back again, those are wrong.

Page 149 1 21273, 21274 and 21275 and 21276. Is there a 2 second? 3 COMMISSIONER KESSLER: So second. CHAIRWOMAN SANDOVAL: Can we have a roll call 4 vote, please? 5 MR. LOZANO: Commissioner Kessler? 6 7 COMMISSIONER KESSLER: Approved. 8 MR. LOZANO: Commissioner Engler? COMMISSIONER ENGLER: Approved. 9 10 MR. LOZANO: Commissioner Sandoval? CHAIRWOMAN SANDOVAL: Approved. The motion has 11 12 passed, and the Commission will now close the session and 13 the record. 14 (Closed deliberations were held and a decision 15 was issued as follows:) 16 CHAIRWOMAN SANDOVAL: Do we have all the parties? 17 MS. HARDY: I am here. MR. BRUCE: This is Jim Bruce. 18 MS. BENNETT: Good morning, this is Deana 19 20 Bennett. 21 CHAIRWOMAN SANDOVAL: Okay, great. It's 5:49 and the Commission meeting on the record is now open. 22 The 23 discussion during the closed session was limited to the 24 cases 21273, 21274, 21275 and 21276. 25 We will first discuss case 21273 and 21274.

Page 150 1 Is there a motion? 2 COMMISSIONER ENGLER: Yes, there is, Madam Chair, in the case 21273 and 21274, the Commission motion is to 3 4 deny Marathon Oil's pooling application. 5 COMMISSIONER KESSLER: I would second that. 6 CHAIRWOMAN SANDOVAL: Is there any discussion 7 which should be had as to why the application of Marathon 8 Oil is being denied? 9 COMMISSIONER ENGLER: Yes, Madam Chair, there is 10 several statements I would like to start off with. We found that the BTA has the best opportunity to 11 12 minimize waste. It also provides the opportunity for each 13 party to develop its own area or acreage. 14 During the testimony there was insufficient and 15 contradictory evidence to prove the effect of the parent-child effect. There was insufficient evidence about 16 the appropriate lateral length and about what was the best 17 number of wells for development or spacing. That's what I 18 19 have. CHAIRWOMAN SANDOVAL: Thank you. I also thought 20 that there was insufficient evidence really quantifying what 21 the difference is in surface waste of the plan was, and 22 23 therefore, that, you know, was negligible. 24 COMMISSIONER KESSLER: In addition to prevention 25 of waste, the Commission also considered other factors that

Page 151 are relevant, (unclear) pooling application, the good faith 1 2 negotiations. The parties, we did not feel one direction or another (unclear) Marathon or BTA's as facility operator, we 3 4 did not feel there was enough evidence one way or another. 5 The AFEs and operational costs seem (unclear) 6 working interest favored BTA (unclear). 7 CHAIRWOMAN SANDOVAL: Thank you. Mr. Lozano, 8 would you do a roll call vote --MR. LOZANO: Yes, Madam Chair. Commissioner 9 10 Kessler? CHAIRWOMAN SANDOVAL: -- for the motion to deny 11 12 Marathon Oil's application. 13 COMMISSIONER KESSLER: I approve the motion to 14 deny. 15 MR. LOZANO: Commissioner Engler? 16 COMMISSIONER ENGLER: I approve. MR. LOZANO: Chair Sandoval? 17 18 CHAIRWOMAN SANDOVAL: I approve the motion to 19 deny. 20 So there was a unanimous vote to deny the application by Marathon Oil. The Commission directs Ms. 21 Hardy to draft and circulate a proposed written order for 22 the Commission and send the order to the Commission clerk, 23 24 Florene Davidson, at least ten days prior to the September 25 17 hearing.

Page 152 MS. HARDY: Thank you, I will do that. 1 CHAIRWOMAN SANDOVAL: Thank you. We will now 2 continue and discuss Cases 21275 and 21276. Is there a 3 4 motion regarding this application? 5 COMMISSIONER ENGLER: Yes, there is, Madam Chair. 6 Again, in the cases of 21275 and 21276, the Commission decision is to deny Novo's pooling application. 7 8 CHAIRWOMAN SANDOVAL: Is there a second? 9 COMMISSIONER KESSLER: Second, Madam Chair. 10 CHAIRWOMAN SANDOVAL: Is there any discussion regarding the motion? 11 12 COMMISSIONER ENGLER: Again, yes, there is, Madam 13 Chair. Again, similarly to the previous one, and I will state them again, again we feel like BTA provides the best 14 15 opportunity to minimize waste and at the same time to provide the opportunity for each party to develop its own 16 17 acreage. 18 Again, there was insufficient and contradictory evidence to prove parent-child effect, best lateral length 19 to be developed and the number of wells or spacing of wells 20 to develop the acreage. 21 22 CHAIRWOMAN SANDOVAL: And again, there was really not enough information or direct clarification to the 23 24 difference in surface waste, and so that was an apparent factor in this discussion. 25

Page 153 COMMISSIONER KESSLER: Finally, we incorporated 1 2 discussion of geology and the purview of prevention of waste that has been the factor around the geology, we incorporated 3 4 that discussion, and the good faith negotiations prior to pooling we did not believe that either party failed to meet 5 6 the good faith negotiations. In terms of capabilities as an 7 operator, we did not find evidence presented regarding that 8 factor took place in direction or another (unclear) and 9 working (audio interference) working interest, and so that 10 was not a major factor. CHAIRWOMAN SANDOVAL: Commission counsel, would 11 you do a roll call vote, please. 12 13 MR. LOZANO: Yes, Madam Chair. Commission 14 Kessler? 15 COMMISSIONER KESSLER: I approve the motion to deny Novo's application. 16 17 MR. LOZANO: Commissioner Engler? 18 COMMISSIONER ENGLER: I approve the denial of 19 Novo's application. 20 MR. LOZANO: Chair Sandoval. 21 CHAIRWOMAN SANDOVAL: I approve the motion to deny. 22 23 MR. LOZANO: The motion passes unanimously. 24 CHAIRWOMAN SANDOVAL: The Commission directs Ms. 25 Hardy to draft and circulate the order of the Commission and

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1	send the order to Commission Clerk, Florene Davidson, at
2	least ten days prior to the September 17, 2020 meeting.
3	And with that, it is 5:57 and I hope everybody
4	has a lovely evening.
5	MR. LOZANO: Madam Chair
б	CHAIRWOMAN SANDOVAL: No, I'm wrong again.
7	MR. LOZANO: I apologize.
8	(Cases 21275, 21276 concluded.)
9	(Agenda hearing reconvened.)
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	Page 155
1	STATE OF NEW MEXICO
2	COUNTY OF BERNALILLO
3	
4	REPORTER'S CERTIFICATE
5	
6	I, IRENE DELGADO, New Mexico Certified Court
7	Reporter, CCR 253, do hereby certify that I reported the
8	foregoing virtual proceedings in stenographic shorthand and
9	that the foregoing pages are a true and correct transcript
10	of those proceedings that were reduced to printed form by me
11	to the best of my ability.
12	I FURTHER CERTIFY that I am neither employed by
13	nor related to any of the parties of attorneys in this case
14	and that I have no interest in the final disposition of this
15	case.
16	I FURTHER CERTIFY that the Virtual Proceeding was
17	of poor to good quality.
18	Dated this 20th day of August 2020.
19	/s/ Irene Delgado
20	Irene Delgado, NMCCR 253
21	License Expires: 12-31-20
22	
23	
24	
25	