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

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	
AMENDED APPLICATION OF BTA OIL PRODUCERS, LLC FOR A NONSTANDARD SPACING AND PRORATION UNIT AND COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.	CASE NOs. 16024, 16161, 16162
APPLICATION OF MARATHON OIL PERMIAN, LLC FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.	CASE NO. 16076
APPLICATION OF MARATHON OIL PERMIAN, LLC FOR A NONSTANDARD SPACING AND PRORATION UNIT AND COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.	CASE NOs. 16077, 16300

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

July 13, 2018

Santa Fe, New Mexico

BEFORE: WILLIAM V. JONES, CHIEF EXAMINER
DAVID K. BROOKS, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, William V. Jones, Chief Examiner, and David K. Brooks, Legal Examiner, on Friday, July 13, 2018, at the New Mexico Energy, Minerals and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

REPORTED BY: Mary C. Hankins, CCR, RPR
New Mexico CCR #20
Paul Baca Professional Court Reporters

APPEARANCES

FOR APPLICANT BTA OIL PRODUCERS, LLC:

MICHAEL H. FELDEWERT, ESQ.
HOLLAND & HART, LLP
110 North Guadalupe, Suite 1
Santa Fe, New Mexico 87501
(505) 988-4421
mfeldewert@hollandhart.com

FOR APPLICANT MARATHON OIL PERMIAN, LLC:

JENNIFER L. BRADFUTE, ESQ.
MODRALL, SPERLING, ROEHL, HARRIS & SISK, P.A.
500 4th Street, Northwest, Suite 1000
Albuquerque, New Mexico 87102
(505) 848-1800
jlb@modrall.com

FOR INTERESTED PARTY LYNN CHARUK:

JAMES G. BRUCE, ESQ.
Post Office Box 1056
Santa Fe, New Mexico 87504
(505) 982-2043
jamesbruc@aol.com

INDEX

INDEX (Cont'd)

EXHIBITS OFFERED AND ADMITTED

(8:22 a.m.)

EXAMINER JONES: Let's go back on the record this morning. This is a continuation of yesterday's docket, but it's also a continuation of the special hearing that was begun on April 24th, BTA and Marathon. And I want to call the cases because I think we have another case or more, and I want to make sure I have them all and make sure all the new parties are on the record.

For BTA, I have Cases 16024, 16161, 16162. Those are all involving the Ogden wells. And 16024 is application of BTA for a nonstandard spacing and proration unit and compulsory pooling in Eddy County, New Mexico. I think the other two cases are styled exactly the same.

I'll call for appearances on those three cases.

MR. FELDEWERT: May it please the Examiner, Michael Feldewert, with the Santa Fe office of Holland & Hart, appearing for the Applicant, BTA Oil Producers, LLC. We have three witnesses here today.

MR. BRUCE: Mr. Examiner, Jim Bruce appearing on behalf of Lynn Charuk. That's C-H-A-R-U-K. And I have one witness.

EXAMINER JONES: Not Tom -- Tom Ragsdale is

not in on this one?

MS. BRADFUTE: It's a different case.

MR. BRUCE: Yeah.

EXAMINER JONES: Okay.

MS. BRADFUTE: Mr. Examiner, Jennifer Bradfute, from the Modrall Sperling Law Firm, on behalf of Marathon Oil Permian, LLC. And we have three witnesses.

And if it pleases the Examiner, we would just like to put our witnesses on in Marathon's cases -- put our witnesses on at once and have them testify as to both matters.

EXAMINER JONES: Okay.

Mr. Bruce, did you say you had one witness?

MR. BRUCE: One witness.

EXAMINER JONES: Okay. And let's also call what I understand to be the Marathon cases, Cases Number 16076, 16077 and 16300.

Application of Marathon Oil Permian, LLC for a compulsory pooling, Eddy County, New Mexico is 16076.

16077 is application of Marathon Oil Permian, LLC for a nonstandard spacing and proration unit and compulsory pooling, Eddy County, New Mexico.

And 16300 is application of Marathon Oil

Permian, LLC for a nonstandard spacing and proration unit and compulsory pooling, Eddy County, New Mexico.

Call for appearances in those cases.

MS. BRADFUTE: Mr. Examiner, Jennifer Bradfute on behalf of the Applicant, Marathon Oil Permian, LLC.

I have filed amended applications in Case Numbers 16076 and 16077.

EXAMINER JONES: They don't say "amended" on here, but I guess you can talk about that later.

MS. BRADFUTE: Yes. They're amendments.

EXAMINER JONES: Any other appearances in those cases?

MR. BRUCE: Jim Bruce on behalf of Lynn Charuk, again.

MR. FELDEWERT: Mr. Examiner, Michael Feldewert, with the Santa Fe office of Holland & Hart, on behalf of BTA Oil Producers.

EXAMINER JONES: Let's have the witnesses all stand, all seven witnesses, and the court reporter swear the witnesses.

(Ms. Beal, Mr. Eti, Mr. McQuien, Mr. Charuk, Mr. Rice, Mr. Keren and Mr. Alekseenko sworn.)

EXAMINER JONES: I understand we're going

to start again with the BTA presentation.

MR. FELDEWERT: That's fine.

EXAMINER JONES: Is there any preamble to this, or do you want to begin?

MR. FELDEWERT: That's fine with me, get the cases done.

MS. BRADFUTE: Mr. Examiner, if I could, I would just like briefly to explain the amendments in Marathon's applications, clarify things as we move throughout the hearing today.

Two of these cases were heard on April 24th, 16076 and 16024, and those cases both related to the Wolfcamp Formation. These cases were continued after the April 24th hearing for notice purposes, but following that continuance, Mr. Charuk entered an appearance in the case and desired to offer testimony and exhibits, and Marathon did not oppose that request but, likewise, wanted an opportunity to present rebuttal evidence.

Following that time period, other override interest owners sent in letters stating a preference for mile-and-a-half-long laterals, so Marathon thought, as an attempt to resolve the dispute, that they would make a proposal for mile-and-a-half-long laterals at their density plan. So the density is still a major issue for

Marathon, and waste is still a major issue for Marathon. But it has filed amended applications that say Marathon will be happy with a mile-long lateral or a mile-and-a-half-long lateral, and they propose mile-and-a-half-long laterals, along with AFEs and well-proposal letters to the parties.

EXAMINER JONES: How long ago were these -- let's see.

MS. BRADFUTE: It was around June 4th, so it's been over 30 days.

EXAMINER JONES: Okay.

EXAMINER BROOKS: So here we go on Friday, the 13th.

MS. BRADFUTE: Yes.

Thank you.

EXAMINER JONES: Okay. Mr. Feldewert.

MR. FELDEWERT: We'll call our first witness.

EXAMINER JONES: Okay.

ASHLEY BEAL,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Would you please state your name, identify by

whom you're employed and in what capacity?

A. My name is Ashley Beal. I'm employed by BTA Oil Producers, LLC, and I am a landman with BTA.

Q. And, Ms. Beal, you have previously testified before this Division. In fact, didn't you testify before this Division in April as an expert witness in petroleum land matters?

A. Yes, sir.

Q. Are you familiar with the applications and even the amended applications that were filed by Marathon in these consolidated cases?

A. Yes, sir.

Q. And are you familiar with the status of the lands in the subject area?

A. Yes, sir.

MR. FELDEWERT: I would retender Ms. Beal as an expert witness in petroleum land matters.

EXAMINER JONES: Any objection?

MR. BRUCE: No objection.

MS. BRADFUTE: No objection.

EXAMINER JONES: She's so qualified.

Q. (BY MR. FELDEWERT) Ms. Beal, in trying to keep all these cases and these amendments all sorted out, I want you to turn to what's been marked as BTA Exhibit 21, in part because I found this very helpful as I was

trying to keep all this straight.

MR. FELDEWERT: So if the Examiners have any confusion on what's involved in each case, I think BTA 21 is very helpful.

Q. (BY MR. FELDEWERT) Would you -- Ms. Beal, does this Exhibit 21 -- does this identify, on the left, the target zone and the location for the initial four Ogden wells listed in BTA's pooling applications?

A. Yes, sir.

Q. And are these the initial wells that BTA proposed now some time ago to form both, first, the Wolfbone spacing unit and also two Bone Spring spacing units?

A. Yes, sir.

Q. Okay. Would you explain to us -- if I look at the 5H and the 6H, what do those wells entail?

A. The 5H and the 6H are the initial wells that we proposed, and these are in the Wolfcamp Sand Formation.

Q. And what spacing unit have you sought to have dedicated to the 5H and the 6H?

A. So the spacing unit would be 480 acres, and that would comprise of the west half of Section 29 and the northwest quarter of Section 32.

Q. And is that reflected in the upper, left-hand corner of this exhibit?

A. Yes, sir.

Q. Okay. Then when I -- I see two wells here, the 9H and the 10H.

A. Yes, sir.

Q. Those have been proposed by BTA?

A. Yes, sir.

Q. What's the purpose of those?

A. Those are to form two different Bone Spring pooling -- pooling units.

Q. So they'd be spacing units?

A. Yes, spacing units.

Q. And because we have an oil pool here involved with the Bone Spring Formation, we have two spacing units rather than just one, right?

A. Rather than just one, yes, sir.

Q. And then what acreage is going to be dedicated to the 9H?

A. The west half of the west half of Section 29 and the west half of the northwest quarter of Section 32.

Q. Okay. And then what would be dedicated to the 10H?

A. The east half of the west half of Section 29 and the east half of the northwest quarter of Section 32.

Q. Okay. Now, I see two additional wells shown on here on the left-hand side, the 7H and the 8H. What's that all about?

A. Those are the two Wolfcamp D wells to save deep rights in BTA and Marathon's leases.

Q. So would these be Wolfcamp wells?

A. Yes, sir, Wolfcamp D.

Q. Wolfcamp D.

Okay. You said that's to address the lease issues involved --

A. Yes, sir.

Q. -- for both BTA and Marathon?

A. Yes, sir.

Q. These would essentially then be infill wells in the same spacing unit that's formed for the 5H and the 6H?

A. Yes, sir.

Q. Okay. All right. Now, if you look on the right of this exhibit, does this show all of the wells listed in Marathon's pooling applications?

A. Yes, sir.

Q. And does it show their locations and their targeted interval as proposed?

A. Yes, sir.

Q. At the April hearing, did Marathon identify the

wells that it initially intends to drill out of these numerous wells?

A. Yes, sir.

Q. These were called their phase one wells?

A. Yes, sir.

Q. And did you take the liberty yesterday, when we were looking at this, of circling what Marathon had identified as their phase one wells?

A. Yes, sir.

Q. And that would be the 15H, the 12H, the 17H and the 16H?

A. Yes, sir.

Q. That's their Zeus wells?

A. Yes, sir.

Q. All right. And if I look at the 15H, has that been subsequently proposed by Marathon in the same correlative Bone Spring zone as the Ogden 9H and 10H?

A. Yes, sir.

Q. And their Zeus 12H and 17H, was that subsequently proposed in the same correlative zone as the 5H and 6H?

A. Yes, sir.

Q. And then there is the Zeus 16H, which is the other well that they had in their phase one. That's in the same correlative Lower Wolfcamp zone --

A. Yes, sir.

Q. -- as the 7H and the 8H?

A. Yes, sir.

Q. Okay. Now, you heard Marathon's attorney indicate that since the April hearing, that they have now amended their applications to mimic the spacing units that BTA initially proposed?

A. Yes, sir.

Q. Okay. So we have -- if I look at this, we have the same spacing units for the Wolfcamp?

A. Yes, sir.

Q. And the same spacing units for the Bone Spring --

A. Yes, sir.

Q. -- between Marathon and BTA?

We have the same well orientation, correct, stand-up wells?

A. Yes, sir.

Q. We have the same well length that's involved?

A. Yes, sir.

Q. And we have essentially the same target zones for the initial drilling?

A. Yes, sir.

Q. All right. With that, I want to briefly turn, kind of give a refresher from April, to the pooling

application for the spacing unit in the Wolfcamp. That's that 480-acre spacing unit. Okay?

A. Okay.

MR. FELDEWERT: That involves Case 16024, Mr. Examiner.

Q. (BY MR. FELDEWERT) If I look at BTA Exhibit 22, the next exhibit, are these the approved federal permits for the 5H and the 6H in that Wolfcamp Formation?

A. Yes, sir. It's just sundries for APDs.

Q. I'm sorry. We have approved APDs, right?

A. Yes, sir.

Q. Okay. And you have since sundried those APDs to reflect the correct acreage allocation --

A. Yes, sir.

Q. -- for the Wolfcamp?

A. Yes, sir.

Q. All right. And the correct depth, right?

A. Yes, sir.

Q. All right. And that's contained now in Exhibit 22?

A. Yes, sir.

Q. So at this point in time, the company could go out and drill these wells if they get a pooling order?

A. Yes, sir.

Q. You've got everything you need from the federal

government?

A. Yes, sir.

Q. And that would save everybody's lease?

A. Yes, sir.

Q. Okay. When we talk about the Wolfcamp, what pool is involved?

A. The Purple Sage; Wolfcamp Pool.

Q. And is that a gas pool?

A. Yes, sir.

Q. So the Wolfcamp in Eddy County is not an oil pool like it is in Lea County?

A. Sorry. Can you repeat that?

Q. The Wolfcamp in Eddy County is not an oil pool like it is in Lea County?

A. No, sir.

Q. And, for example, over here in Eddy County where these wells are located, there is no such thing as a Wolfbone Pool like we see in Lea County?

A. No, sir.

Q. And are you aware that following a hearing, the Division actually created a separate gas pool for the Wolfcamp Formation in the Eddy County?

A. Yes, sir.

Q. All right. So when we get over here to Eddy County, the Division does not treat the Bone Spring

Formation -- or the lower part of the Bone Spring Formation and the upper part of the Wolfcamp Formation as the same pool like they do over in Lea County with the Wolfbone?

A. No, sir.

Q. They treat it as two separate sources of supply?

A. Yes, sir.

Q. All right. Now, if I go to Exhibit Number 2 in our volume, BTA Exhibit Number 2 in the first volume, does this contain a breakdown of the ownership for the acreage that's involved in all of these applications?

A. Yes, sir.

Q. Okay. I'll call this the west-half acreage, right, the west half of 29 and the west half of the northwest quarter of 32.

How many tracts of land are involved in this acreage that's at issue here?

A. There are eight tracts.

Q. And if I look at the subsequent pages, it provides the ownership breakdown for each tract of this acreage?

A. Yes, sir.

Q. And if I go to the last page, does this reflect, in the acreage that's involved here in all

these consolidated applications, that BTA owns over 70 percent of the working interest?

A. Yes.

Q. And Marathon owns less than 30 percent?

A. Yes, sir.

Q. Okay. Now, when we turn to the pooling applications for the Bone Spring Formation, it involves this same acreage, but instead of one spacing unit, we have two, right?

A. Yes, sir.

Q. Because we're dealing with an oil pool in the Bone Spring?

A. Yes, sir.

MR. FELDEWERT: That involves, Mr. Examiner, Cases 16161 and 16162. That's the Bone Spring cases.

Q. (BY MR. FELDEWERT) That involves the 9H and the 10H wells; is that right?

A. Yes, sir.

Q. Those would be the initial wells to form those spacing units?

A. Yes, sir.

Q. If I go to Exhibit 23 in the other volume, are these the well-proposal letters that were sent out for the 9H and the 10H for these Bone Spring spacing units?

A. Yes, sir.

Q. And I guess for the record, what does the company seek under each of these applications?

A. To pool the west half of the west half of Section 29 and the west half of the northwest quarter of Section 32 and then the east half of the west half of Section 29 and the east half of the northwest quarter of Section 32.

Q. Okay. Now, we have the same acreage involved as we did for the Wolfcamp but a different pool. Did you look up the pool for the Bone Spring Formation --

A. Yes.

Q. -- in this area?

A. It's the Culebra Bluff: Bone Spring, South Pool.

MR. FELDEWERT: And, Mr. Examiner, that's Pool Code 15011.

EXAMINER JONES: Thank you.

Q. (BY MR. FELDEWERT) That's an oil pool, not a gas pool?

A. Yes, sir.

Q. Okay. Will the proposed wells comply with the setback requirements?

A. Yes, sir.

Q. Has the company actually amended its plans to

take advantage of the passage of the recent horizontal well rules?

A. Yes, sir.

Q. And will 9 and 10 locate the first take point and the last take point of each of those Bone Spring wells 100 feet off the perpendicular line?

A. Yes, sir.

Q. Okay. Now, we have the same acreage involved here, but the ownership does shift slightly, correct --

A. Yes, sir.

Q. -- with these Bone Spring spacing units?

A. Yes, sir.

Q. And if we look at the west half-west half unit -- so that would be the west half of -- west half of 29 and the west half of the northwest quarter of 32. For that Bone Spring spacing unit, what is BTA's ownership percentage?

A. Over 83 percent.

Q. Okay. And if we look at the east half of the west half of the Bone Spring spacing units, what's your ownership percentage?

A. Over 57 percent.

Q. So no matter what spacing unit you're looking at, you have the majority working interest?

A. Yes, sir.

EXAMINER BROOKS: Could you repeat those percentages, please?

MR. FELDEWERT: Sure. For the Wolfcamp spacing unit, it would be over 70 percent.

EXAMINER BROOKS: I got the Wolfcamp.

MR. FELDEWERT: West half-west half unit?

EXAMINER BROOKS: Yeah.

Q. (BY MR. FELDEWERT) That would be -- BTA owns over 83 percent; is that right?

A. Yes, sir.

EXAMINER BROOKS: 83 percent. Okay.

Q. (BY MR. FELDEWERT) And then the east half of the west half unit, they would own over 57 percent?

A. Yes, sir.

EXAMINER BROOKS: 50- --

MR. FELDEWERT: -7 percent.

EXAMINER BROOKS: Go ahead.

Q. (BY MR. FELDEWERT) Now, you seek to pool Marathon's minority interest in this acreage, correct?

A. Yes, sir.

Q. Are there also other mineral interests that you seek to pool here?

A. Override royalty owners.

Q. And have you been able to locate addresses for those overrides?

A. Yes, sir.

Q. And why is that?

A. Because we have wells where they have ownership currently.

Q. So you have current pay decks?

A. Yes, sir.

Q. Covering all these overrides?

A. Yes, sir.

Q. And we'll see later that we provided notice of this hearing to all the overrides?

A. Yes, sir.

Q. Including some who are here today?

A. Yes, sir.

Q. And do you anticipate that they will sign the communitization agreement that would be necessary for these spacing units?

A. Yes, sir.

Q. Now, the well-proposal letters for the Bone Spring units that you sent back in April, they contain an AFE for each of these wells?

A. Yes, sir.

Q. And are the costs reflected on this AFE consistent with what other operators have incurred for drilling similar Bone Spring wells?

A. Yes, sir.

Q. With respect to the overhead rates, what does the company request while drilling and also while producing?

A. It's 800 and 8,000.

Q. And is that consistent with what other operators are charging for these wells in this area?

A. Yes, sir.

Q. And, in fact, Mewbourne operates wells in the acreage in the south half of Section 32, correct?

A. Yes, sir.

Q. So if I go back to Exhibit 21, if I move to the south half of 32, that would be acreage where Mewbourne is developing its minerals?

A. Yes, sir.

Q. And are you partners with Mewbourne down there?

A. Yes, sir.

Q. And these overhead rates that you have proposed, are they the same overhead rates that Mewbourne is charging for its operations down there where you're a partial interest owner?

A. Yes, sir.

Q. Now, in April, you discussed the timeline of the efforts that were undertaken by the company to develop its minerals here in Section 29 and in the north half of 32, right?

A. Yes, sir.

Q. And if you turn to BTA Exhibit 6, does that contain the timeline that we entered into evidence based on your testimony back in April?

A. Yes, sir.

Q. And that timeline was supported by the emails that are reflected in Exhibit Number 5?

A. Yes, sir.

Q. Now, we see the first trade discussions with Marathon started in June, right --

A. Yes, sir.

Q. -- of last year?

A. Yes, sir.

Q. Prior to that, had the company engaged in efforts to reach an agreement on development of the minerals with Marathon's predecessor?

A. Yes, sir.

Q. And who was that?

A. BC.

Q. And when did the company -- when the company approached BC Operating, Marathon's predecessor, about development of the acreage and their plans, what was BC's response?

A. They didn't have any issues with the development plan, and they told us to go ahead and move

forward.

Q. Okay. And at that time, then, did you initiate your permitting for the Wolfcamp wells?

A. Yes, sir.

Q. And that's why you have federal permits today?

A. Yes, sir.

Q. And then Marathon acquired the acreage from BC sometime last year. Do you recall when that was?

A. I think it was announced in March, and then everything closed in May, I believe.

Q. All right. And then you approached Marathon about your development plan, and there was some trade discussions that commenced, correct?

A. Yes, sir.

Q. And I don't need to go through this again, but I think it's important to remind the Examiners here.

What did Marathon tell you after BTA proposed its Wolfcamp wells to them, like they had to BC Operating, back in October of 2017?

A. They said that they would either trade acreage or participate in the wells and that we shouldn't have any issues.

Q. And that you wouldn't have to go seek a pooling order?

A. No, sir.

Q. Did you then send them, as this timeline reflects, the joint operating agreement?

A. Yes, sir.

Q. And did you get any response to your joint operating agreement?

A. No, sir.

Q. Okay. So what did you do?

A. I kept reaching out and asking if they had reviewed the JOA.

Q. And did they get back to you on January 9th?

A. Yes, sir.

Q. And your timeline says, "Marathon represents it will provide an election on the Ogden wells without the need for compulsory pooling"?

A. Yes, sir.

Q. I want you to go to BTA Exhibit 5, and I want you to go to page 2. At the bottom, I see a January 9th email?

A. Yes, sir.

Q. All right. And that is from Tate Matthews at Mewbourne?

A. Matt Tate, yes.

Q. I'm sorry. Matt Tate at Marathon to you, correct?

A. Yes, sir.

Q. And he indicates he forwarded your email and JOA to Chase Rice?

A. Yes, sir.

Q. And then he goes on to represent, "We would like to proceed, provide our election prior to BTA having to file an application for compulsory pooling"?

A. Yes, sir.

Q. And then if I go to the next page, page 3 of Exhibit 5, in the middle, there is an email from Mr. Rice to you?

A. Yes, sir.

Q. He says he's now handling this area?

A. Yes, sir.

Q. And he says, I quote, "JOA is out for review, and I hope to have some feedback by the end of the week."

A. Yes, sir.

Q. Okay. Did you get any feedback by the end of the week?

A. No, sir.

Q. Next page. I'm sorry. Page 5 of Exhibit 5, did you reach out to them again in February to determine the status of their election and the JOA?

A. Yes, sir.

Q. And if I look at the bottom of page 5, is there

another email from Mr. Rice to you saying that they should have feedback for you sometime today?

A. Yes, sir.

Q. And that was on February 12th?

A. Yes, sir.

Q. Did they provide feedback on February 12th?

A. No, sir.

Q. Did they provide feedback the next day?

A. No, sir.

Q. What did they do instead of providing feedback on your JOA?

A. They sent competing well proposals to us.

Q. Okay. And that initiated all these applications and now amended applications by Marathon that are before the Division today?

A. Yes, sir.

Q. So you started trying to develop your acreage. With Marathon, you started in June of last year --

A. Yes, sir.

Q. -- over a year ago?

And prior to that, you had started with BC Operating?

A. Yes, sir.

Q. And you had been moving forward with your federal permits, and then Marathon stepped in, and now

we've got this matter before the Division?

A. Yes, sir.

Q. Okay. All right. If I look at this, the last thing on your timeline -- if I look at this timeline, Ms. Beal, BTA is the one that initiated development of its acreage with Marathon's predecessor, right?

A. Yes, sir.

Q. Was BTA the first to initiate discussions with Marathon about the development of your acreage?

A. Yes, sir.

Q. And is BTA the first one to formally propose wells to develop on your acreage?

A. Yes, sir.

EXAMINER BROOKS: Mr. Feldewert, what exhibit is that timeline?

MR. FELDEWERT: 6.

EXAMINER BROOKS: Thank you.

Q. (BY MR. FELDEWERT) And is BTA the first one, then, to file your pooling applications once they proposed the competing well proposals to you?

A. Yes, sir.

Q. And it's for acreage in which you hold over 70 percent of the working interest?

A. Yes, sir.

Q. Now, if I look at Exhibit 24 -- BTA Exhibit 24,

does this organize by case number for the Examiners the wells involved under each case and the spacing unit that's involved?

A. Yes, sir.

Q. All right. So in other words, on the first page, we have the Wolfcamp wells, your initial development wells, to form that spacing unit?

A. Yes, sir.

Q. And the second page would contain the spacing unit for the 10H?

A. Yes, sir.

Q. Which would be the initial well to develop the Bone spacing unit on the east half-east-half acreage?

A. Yes, sir.

Q. East half-west half acreage. I'm sorry.

And then the --

MS. BRADFUTE: Michael, I apologize. Which exhibit are you looking at?

MR. FELDEWERT: 24.

MS. BRADFUTE: 24. Okay. Thank you.

Q. (BY MR. FELDEWERT) And then the last page of that exhibit would be the 9H well, which would be the initial proposed well to develop and form the west half-west half Bone Spring spacing unit, right?

A. Yes, sir.

Q. Okay. Does the company have facilities in place for drilling and completing the proposed well?

A. Yes, sir.

Q. What's the status with respect to the Wolfcamp wells shown on the first page, the 5H and 6H?

A. We have a pad built currently, and we have gas connections, so we are ready to drill today.

Q. And you have your permits?

A. Yes. And we have our federal permits.

Q. Now, with respect to the Bone Spring wells, what's the status on those with respect to your locations?

A. We have staked our location, and we have a surface-use agreement currently with the surface owner for the 9 and the 10.

Q. And when this pooling order is entered, you will complete your permitting and be able to move forward with the Bone Spring wells?

A. Yes, sir.

Q. You mention that in addition to the initial wells to develop your Wolfcamp spacing unit and to develop your Bone spacing unit, that you had also proposed infill wells to deal with what you called lease depth-severance issues?

A. Yes, sir.

Q. What's going on there? What's that all about?

A. We proposed those wells so that we could save all of the leases as to, you know, depths to the Wolfcamp D Formation, and we have currently amended our APDs to reflect the right depths and acreage.

Q. Okay. Now, if I look at Exhibit 2 -- that's the one that shows all the tracts -- where's the depth-severance issues? What -- what tracts are involved? Or what leases are involved for what tracts that contain these depth-severance concerns?

A. It's Tracts 2, 3 and 5, and I believe maybe 4.

Q. And these are tracts in which, in some cases, BTA owns all the interests and some cases, Marathon has an ownership?

A. Yes, sir.

Q. And currently there is no depth severance, right?

A. No, sir.

Q. But the concern would be -- what could cause a depth severance?

A. The lease is expiring without continuances --

EXAMINER BROOKS: I'm sorry?

THE WITNESS: The lease is expiring without continuous development.

Q. (BY MR. FELDEWERT) And is there some 100-foot

provision or something?

A. Yes, sir, 100 feet below the deepest producing depth.

Q. I see.

So the 7H and the 8H deeper Wolfcamp wells, they will allow you to hold the -- they are deep enough to allow you to hold the entire Wolfcamp?

A. Just 100 feet below the producing depth --

Q. Okay.

A. -- yes, sir.

Q. All right. And that would deal with both BTA and Marathon's lease issues?

A. Yes, sir.

Q. And if I then go to BTA Exhibit 25 -- so now I'm going to go to BTA Exhibit 25. Does this contain the well-proposal letters for these deeper Wolfcamp wells?

A. Yes, sir.

Q. And they were sent out, looks like, in April, the same time you sent out your proposals for the Bone Spring wells?

A. Yes, sir.

Q. And has BTA -- as part of its permitting process, do you have the permits in place to timely drill these wells?

A. Yes, sir.

Q. And be able to deal with the depth-severance issues?

A. Yes, sir.

Q. And if I look at -- let's see -- I think Exhibit 26, does that contain the C-102s and then the sundries for the 7H and 8H to allow you to timely develop the Lower Wolfcamp zone?

A. Yes, sir. The sundries have been submitted but not approved.

Q. Okay. You're waiting on approval for those?

A. Yes, sir. But it generally takes two days for a sundry to be approved.

Q. For a sundry to be approved?

A. Yes, sir.

Q. And these will be additional infill wells, then, in the spacing unit that's formed by the 5H and the 6H wells?

A. Yes, sir.

Q. When does BTA's lease expire?

A. BTA's leases expire in April of 2019.

Q. Is that before the Marathon leases expire?

A. Yes, sir.

Q. So BTA has more incentive than Marathon does to get these timely drilled, right?

A. Yes, sir.

Q. Okay. Given that we're sitting here in July, are you concerned about Marathon's ability to meet your lease obligations if the Division names them the operator of your acreage rather than you-all?

A. Yes, sir.

Q. What's the concern?

A. I do not believe that they can get federal permits in time.

Q. How long is it taking now to get federal permits?

A. It can take anywhere from nine to 12 months.

Q. Okay. But fortunately you got the permits in place to get this done?

A. Yes, sir.

Q. On acreage in which you own 70 percent?

A. Yes, sir.

Q. Okay. One other point: We've been dealing with what we'll call the west-half acreage of Section 29 and the northwest of 32. Okay?

A. Yes, sir.

Q. You mention, in April, that BTA is also developing the east half of this acreage?

A. Yes, sir.

Q. So it would be the east half of 29 and the east

half of 32?

A. Yes, sir.

Q. And I think at the time you testified that you were waiting on approval of a nonstandard spacing unit to allow you to form a 480 Wolfcamp on that east side?

A. Yes, sir.

Q. Have you received that administrative order?

A. Yes, sir.

Q. Is that marked as BTA Exhibit 27?

A. Yes, sir.

Q. And does Exhibit 27 contain Administrative Order NSP 2101?

A. Yes, sir.

Q. And that, therefore, has allowed you to form a Wolfcamp spacing unit on the east half of this acreage that mirrors the spacing unit you seek to form with your pooling orders for the west half?

A. Yes, sir.

Q. It references two wells here, the 1H and the 2H?

A. Yes, sir.

Q. What's the -- if I turn to Exhibit 28, is this a plat of that east-half-acreage development?

A. Yes, sir.

Q. Okay. So this is right next door to the

acreage that's involved for pooling?

A. Yes, sir.

Q. Okay. And what's the status -- does this reflect the status the 1H -- the drilling of the 1H and the 2H?

A. Yes, sir.

Q. What's the status of that?

A. We have begun drilling both the 1H and the 2H.

EXAMINER BROOKS: You say you have or you haven't?

THE WITNESS: We have, yes. We spud the 2H on June 23rd, and we spud the 1H on July 7th.

Q. (BY MR. FELDEWERT) So the company is actually drilling on this east-half acreage in a Wolfcamp spacing unit that mirrors the spacing unit you seek to be pooled here today?

A. Yes, sir.

Q. And like the west-half acreage, does BTA own a majority interest in the east-half acreage?

A. Yes, sir.

Q. But do you own 100 percent?

A. No, sir.

Q. Is there another interest owner involved?

A. Yes, sir.

Q. Who is that?

A. MRC Permian.

Q. Okay. And are they participating in your development plan?

A. Yes, sir.

Q. And did MRC raise any objection to developing, for example, the Wolfcamp gas pool independent of the Bone Spring oil pool?

A. No, sir.

Q. Now, just to make it clear, why has BTA commenced development of this acreage with one-and-a-half-mile wells? Why not two-mile wells?

A. Because Mewbourne owns the acreage in the south half of Section 32, and they are developing it. And they have already drilled one-mile wells going east-west, and so the only length we could drill was a mile-and-a-half.

Q. Okay. And under your plan now with complete development then -- or that'll -- that'll allow to form the spacing units necessary for further development in 29 and 32?

A. Yes, sir.

Q. And not leave any acreage out of the spacing unit?

A. Yes, sir.

Q. Okay. How many rigs does the company have

running in the Delaware in New Mexico?

A. Two rigs.

Q. And are they going to be available over the next six months to drill the 5H and the 6H wells to initially form the Wolfcamp spacing unit?

A. Yes, sir.

Q. And will they be available to develop the 7H and the 8H as infill wells and Wolfcamp spacing unit to hold those leases?

A. Yes, sir.

Q. Okay. If I turn to BTA Exhibit 29, is this an affidavit prepared by my office with the attached letter providing notice of this hearing to Marathon?

A. Yes, sir.

Q. And did it also -- does it also reflect that you provide notice of this hearing to the overriding interest owners?

A. Yes, sir.

Q. And all of those overriding royalty interest owners received notice, and we did have a valid address?

A. (Indicating.)

Q. Finally, I know we have at least one overriding royalty interest owner here today, but if I turn to BTA Exhibit 30, is this a letter that was sent to the Division by a group of overriding royalty interest

owners in the acreage where you own 70 percent?

A. Yes, sir.

Q. And do they support BTA's initial development plans?

A. Yes, sir.

MR. FELDEWERT: Mr. Examiner, I would move the admission into evidence of BTA Exhibits 21 through 30.

MS. BRADFUTE: No objection.

MR. BRUCE: No objection.

MR. FELDEWERT: And that completes my examination of this witness.

EXAMINER JONES: Exhibits 21 through 30 for BTA are admitted.

And these are for all three cases?

MR. FELDEWERT: Yes, sir.

(BTA Oil Producers, LLC Exhibit Numbers 21 through 30 are offered and admitted into evidence.)

MS. BRADFUTE: I'll let Jim go.

MR. BRUCE: Couple of questions.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. I notice the wells are Fed Com. Is there both federal and fee minerals in these well units?

A. Yes, sir. There is also state.

Q. And also state.

A. Yes, sir.

Q. And I notice that you said you had some surface-use agreements. Is there a similar mix of surface ownership, or is it all fee surface land?

A. It's also a mix.

Q. Okay.

A. Yes, sir.

EXAMINER BROOKS: I'm sorry. I didn't hear.

THE WITNESS: It's a mix between fee and state.

EXAMINER BROOKS: Thank you.

THE WITNESS: Yes, sir.

Q. (BY MR. BRUCE) So besides the BLM permitting process, you've had to go out and obtain surface-use agreements from the surface owners out there?

A. Yes, sir.

Q. And that's time-consuming also, isn't it?

A. Yes, sir.

Q. Too time-consuming?

A. Yes, sir.

Q. And then somewhere in your exhibits, I thought I saw a lease from Pardue. Was that in this, or was it

somewhere else?

A. I'm not sure which exhibit it is, but there is a lease, yes, the Marathon lease.

Q. And that's one of the leases -- Pardue is a well-known mineral owner down there, aren't they?

A. Yes.

Q. And they always have two clauses in their leases?

A. Yes, sir.

Q. And that's where the future depth severance may arise?

A. Yes, sir.

Q. And so you have to have continuous drilling. Otherwise, a lot of your acreage -- certain depths would lapse, correct?

A. Yes, sir.

Q. Thank you. That's all I have.

MR. FELDEWERT: I think that was Exhibit 18.

MR. BRUCE: 18.

CROSS-EXAMINATION

BY MS. BRADFUTE:

Q. Good morning, Ms. Beal. How are you?

A. I'm good. How are you?

Q. I'm doing good. Thanks.

I'm going to turn to your lease tract map.

A. It's 23.

Q. Thank you. I'm dealing with two notebooks.

Ms. Beal, is it correct that Marathon owns 100 percent of the working interest in Tracts 4 and 5 in your lease tract map?

A. Yes, ma'am.

Q. I believe that's consistent with your prior testimony.

I want to briefly -- I'll come back to that issue. But I want to briefly talk about your timeline in Exhibit Number 6, and I want to focus on the January 22nd, 2018 date. BTA was contacted by Marathon on January 22nd or around January 22nd indicating that Marathon had concerns about the proposed AFE costs for the 5H and the 6H wells, correct?

A. Yes, ma'am.

Q. Okay. And so BTA was aware in January of 2018 that Marathon was still evaluating the proposals and did, in fact, have questions about those proposals and had not yet decided to elect to participate?

A. Yes, ma'am.

Q. In fact, didn't BTA, following this January 22nd date, have a phone call with Marathon to discuss some of those concerns?

A. Yes, ma'am.

Q. And did Willis Price from BTA then meet with Marathon to further discuss some development options?

A. Yes, ma'am.

Q. So BTA was aware of the fact that Marathon was expressing concerns and that the well proposals were still under review within the Marathon system, correct?

A. Yes, ma'am.

Q. Had BTA entered into any sort of written agreement with BC Operating for the development of the acreage?

A. No, ma'am.

Q. So it had not entered into any sort of joint operating agreement with BC Operating?

A. No, ma'am.

Q. And it had not entered into any sort of execution agreement for the development of the acreage; is that correct?

A. That would not be possible unless the well was producing, so no.

Q. Exactly. Good point of clarification.

And BC Operating similarly has not -- I'm sorry. BTA has similarly not entered into any sort of written agreement with Marathon for the development of the acreage, correct?

A. No, ma'am.

Q. So Marathon's interest within Tracts 4 and 5 have not been voluntarily committed to the development plan?

A. No, ma'am.

Q. And that's why we're here today, right?

A. Yes, ma'am.

Q. If you could now -- I want to flip to Exhibit Number 22 in BTA's binder -- new exhibits binder. And this exhibit contains both an approved sundry for the 5H well, as well as -- and the 6H well, as well as some C-102 plans, correct?

A. Yes, ma'am.

Q. Okay. And for the 5H well, it looks like a C-102 was submitted on the 22nd or at least signed by surveyor on the 22nd of January -- February 2017, correct?

A. Yes, ma'am.

Q. On the C-102 form, there is an operator certification provision, correct?

A. Yes, ma'am.

Q. Can you read what that certification provides?

A. The "I hereby certify"?

Q. Yeah.

A. "I hereby certify that the information herein

is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division."

Q. Okay. So at the time this C-102 form was submitted to the Division, BTA did not have any sort of voluntary agreement in place to drill its lateral through Tracts 4 and 5, correct?

MR. FELDEWERT: Object to the form of the question.

This is February of 2017?

MS. BRADFUTE: Yeah, February 2017. Yes.

Q. (BY MS. BRADFUTE) When this was submitted, you didn't have a voluntary agreement with Marathon, right, in place before you submitted --

MR. FELDEWERT: With Marathon or BC?

MS. BRADFUTE: With BC.

THE WITNESS: No, ma'am.

Q. (BY MS. BRADFUTE) Okay. And if you turn two further pages in, there is a C-102 form for the 6H well,

correct?

A. Yes, ma'am.

Q. And it looks like it's executed, signed by Kathy Reynold?

A. Katy Reddell.

Q. Thank you. Katy Reddell.

And it looks like the date the surveyor certification was made is February 19th, 2018; is that correct?

A. Yes, ma'am.

Q. Okay. And at that point in time, you did not have an agreement in place with Marathon, correct?

A. No, ma'am.

Q. Okay. To voluntarily commit the tracts?

EXAMINER BROOKS: Which is this one you're looking at?

MS. BRADFUTE: It is in the same exhibit, David. It's two pages in, if you flip two pages.

EXAMINER BROOKS: Okay. It's part of Exhibit 22. I see it.

It appears -- that operator certification appears to be signed on this one. It does not appear to be signed on the one of the 5H; is that correct?

MS. BRADFUTE: That -- well, it looks like an electronic signature on 5H, but the witness can

answer.

EXAMINER BROOKS: Oh, maybe it is. Those are things that came into being after I got too old to learn new things.

(Laughter.)

Q. (BY MS. BRADFUTE) And, Ms. Beal, that's a good point of clarification. The C-102 for the 5H well was submitted to the district office, correct?

A. Yes, ma'am.

Q. So BTA Operating moved forward with submitting the C-102s before it had voluntary agreements in place for the development of the acreage, correct?

A. BTA Oil, yes.

Q. BTA Oil. I apologize. BC and BTA, I'm confusing them in my questions.

But BTA did -- did proceed with filing C-102s, starting to move forward in the development process before it had any voluntary commitment for Tracts 4 and 5?

A. Any written, yes.

Q. Any written.

And as everyone knows, you don't have the commitment that you need to drill a well until you get a written voluntary agreement in place with the other operators, working interests within the proposed area,

correct?

A. Yes, ma'am.

Q. I want to turn to Exhibit Number 24 and talk about the order that you're going to be completing these wells in. You kind of walked through with Mr. Feldewert the order that these wells are going to be drilled, so I want to look at the first page. And this diagram in the first page of Exhibit 24 shows the 6H well and the 5H well, correct?

A. Yes, ma'am.

Q. Okay. And these are going to be BTA's Upper Wolfcamp wells?

A. Wolfcamp Sand wells, yes, ma'am.

Q. Okay. Wolfcamp Sand wells.

And I believe the prior testimony was that these are X-Y wells?

A. Yes, ma'am. We call it A-B, but yes, ma'am.

Q. Okay. When will these wells be drilled?

A. As soon as this is decided, that's when we would drill.

Q. So you'd go ahead and drill.

And when will these two wells be completed?

A. I could not tell you that.

Q. Okay. So you don't know when they're going to be completed?

A. No, ma'am. I do not make those decisions.

Q. Okay. Previously, I believe your testimony was that BTA is requesting additional time to conduct its completion operations for these wells?

A. Yes, ma'am.

Q. And it had requested 180 days?

A. Yes, ma'am.

Q. Okay. But you don't know when these wells will be completed, but you definitely need at least 180 days after -- after an order is approved to complete -- or after the wells are drilled to complete them?

A. That is also not my decision.

Q. Okay. So let's flip to the next page of this exhibit and --

EXAMINER BROOKS: Are you talking about Exhibit 24?

MS. BRADFUTE: Yes, the second page of Exhibit 24.

EXAMINER BROOKS: Okay. Thank you.

Q. (BY MS. BRADFUTE) And the top of this page is entitled "Case Number 16162," correct?

A. Yes, ma'am.

Q. And it shows the diagram for the 10H well?

A. Yes, ma'am.

Q. This is going to be a 3rd Bone Spring Sand

well, correct?

A. Yes, ma'am.

Q. And when will this well be drilled?

A. I do not know.

Q. You don't know?

A. No.

Q. Okay. Do you know when this well will be completed?

A. I do not know.

Q. Okay. Has BTA discussed any completion operations for these 3rd Bone Spring Sand wells that you've been involved in?

A. I do not know.

Q. Okay. So you have not been involved in any completion discussions for the 10H well?

A. No.

Q. As far as the timing goes?

A. No.

Q. If you could turn to the next page of this exhibit, and the caption on this diagram is "Case Number 16161." Is this document a diagram for the 9H well?

A. Yes, ma'am.

Q. And the 9H well is also going to be a 3rd Bone Spring Sand well, correct?

A. Yes.

Q. And do you know when this well will be drilled?

A. I do not know.

Q. Okay. And, likewise, do you know when this well will be completed?

A. No, ma'am.

Q. Have you been involved in any discussions as to when the 3rd Bone Spring Sand wells will actually be drilled?

A. It's dependent on the outcome of the cases, and we have a year to drill them after that. So I would assume that's when we would drill them, within that period.

Q. Okay. So it would be within a year after you receive an order from the Division on the 9H and the 10H wells?

A. Yes.

Q. Okay. But your intent is to drill the 5H and the 6H as soon as possible?

A. Yes, ma'am.

Q. Where are you in the permitting process for these 3rd Bone Spring Sand wells, the 10H and the 9H wells?

A. We have started putting together the documentation, but we have not submitted anything.

Q. Okay. You haven't submitted anything yet to

the BLM?

A. No, because we cannot. So -- we would like to submit these the correct way, until this case is decided on.

Q. And what do you mean you cannot submit these APDs yet?

A. We have to wait until this hearing is over and a decision made before we will submit them.

Q. Okay. And that's pursuant to the Division's requirements?

A. I don't know.

Q. You don't know.

Okay. But you did submit APDs for the Wolfcamp wells, right?

A. Yes.

Q. Okay. And the indication there is that you did that incorrectly and kind of jumped the gun?

MR. FELDEWERT: Object to the form of the question.

MS. BRADFUTE: Okay. Well, the witness testified that submitting the APDs for the Bone Spring wells would be incorrect at this point in time because they need a pooling order.

MR. FELDEWERT: Because Marathon has objected.

MS. BRADFUTE: Well, yes, but there was no signed agreement to the other one.

MR. FELDEWERT: Didn't have a signed agreement, but BC said move forward, so they did.

EXAMINER BROOKS: I think we understand the point that is being made. The witness can testify -- the witness' testimony should be limited to the form in which they were submitted and not a judgment to whether it's incorrect or correct because that's a judgment for the decision-maker.

MS. BRADFUTE: Understood.

Q. (BY MS. BRADFUTE) So, Ms. Beal, what information has BTA selected for the APDs that will eventually be submitted for the 9H and the 10H wells?

A. All the information that's in the well proposals and on the AFEs.

Q. Okay. Have you done any further analysis or started to compile your APD forms --

A. Yes.

Q. -- to prepare this submission?

A. Yes.

Q. Okay. What have you done?

A. I don't personally put them together, so that would be a question for a regulatory person.

Q. Okay. And do you specifically -- do you have

any personal knowledge as to what has been done to put those APD applications together?

A. No. I just know that we have started the process because I have sent the information to our regulatory employee, and she has started working on putting the information together.

Q. Okay. So based on your prior testimony, is it your understanding it's taking the BLM at least nine months to approve APDs?

A. Yes, ma'am.

Q. So it would -- is it your opinion that it would take the BLM approximately nine months to approve the APDs for 9H and 10H wells?

A. Yes, ma'am.

Q. You testified earlier this morning that MRC Permian owns a percentage within the east half of Section 29 and the east half of -- or within the northeast quarter of Section 32, correct?

A. They just own an interest in Section 29.

Q. Okay. What is -- what is their percentage of interest?

A. They own 80 net acres within the unit.

Q. 80 net acres.

And what percentage of interest would they have in BTA's proposed spacing unit for the east half of

29 and the northeast quarter of 32?

A. I would have to calculate that, but I think it's around -- I don't know. I would have to -- but it's much -- I don't know.

Q. Do you know approximately?

A. I don't know.

Q. Okay. But it's just 80 net acres?

A. Yes, within the 480.

Q. So it's a fairly small interest?

A. Yes, ma'am.

Q. Ms. Beal, would you have any knowledge about well disposal agreements that are in place for the wells?

A. Well disposals?

Q. Yeah. Whether you have any --

A. Of saltwater?

Q. -- saltwater disposal, wastewater disposal agreements in place.

A. Yes, ma'am.

Q. You do?

A. Yes, ma'am.

Q. Okay. And when were those entered into?

A. I'm not sure of the exact date, but it was before I started working at BTA, so over a year and a half ago.

Q. Okay. Okay. And are you aware of any transportation agreements for oil production that BTA has entered into for this acreage?

A. I do not know.

Q. Okay. I want to briefly talk about the timeline for the Bone Spring well proposals.

EXAMINER BROOKS: And that is exhibit what?

MS. BRADFUTE: You know, I don't think that BTA entered an exhibit for the timeline on the --

EXAMINER BROOKS: 6?

MS. BRADFUTE: -- Bone Spring proposals.

EXAMINER BROOKS: Oh, the Bone Spring.

MS. BRADFUTE: Yeah.

MR. FELDEWERT: I think it's on the timeline.

THE WITNESS: It is on the timeline.

MS. BRADFUTE: Okay. So we can look at Exhibit 6.

Q. (BY MS. BRADFUTE) Ms. Beal, when did BTA propose -- first propose its 9H and 10H wells?

A. April 10th.

Q. Okay. And when did Marathon propose its 1st Bone Spring well to BTA that's going located within this acreage?

A. Its 1st Bone Spring well?

Q. Yeah.

A. February 19th.

Q. Okay. So Marathon was the first operator to the proposed Bone Spring development within the spacing unit, correct?

A. Yes, ma'am.

Q. Okay. And following the receipt of Marathon's well proposal for the Bone Spring Formation in February of 2018, how did BTA respond to that proposal?

A. To Marathon's initial proposal?

Q. Yes.

A. We filed for a compulsory pooling.

Q. Okay. So the response was to file for pooling?

A. Yes.

Q. Okay. So did BTA engage in any sort of negotiations concerning Marathon's development plans for the Bone Spring Formation before it filed for pooling?

A. I know that when Willis met with Marathon, there was a discussion of letting Marathon develop the Bone Spring and we develop the Wolfcamp.

Q. So is the Bone Spring Formation BTA's primary target within these spacing units within the development area?

A. It will not be our initial wells.

Q. Okay. Thank you, Ms. Beal. I think that

concludes my questions.

EXAMINER JONES: Mr. Brooks?

EXAMINER BROOKS: You want me to go first?

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. Let me see what I can do here.

Good morning, Ms. Beal.

A. Good morning.

Q. Did you have a chance to mention my name to your grandfather?

A. I did.

Q. Does he remember me?

A. He does.

Q. Well --

MR. FELDEWERT: You don't want to know what he said.

(Laughter.)

EXAMINER BROOKS: I don't want to know what he said (laughter). It's like the hearing examiner for the Water -- no -- for the State Engineer who was asked at the seminar about how he wanted the attorneys to address him. And he said, "I don't care so much what they call me at the hearing as I do what they call me after the hearing."

(Laughter.)

Q. (BY EXAMINER BROOKS) Okay. Well, I don't know that I followed all of that, but -- let's see. The first wells you're going to drill are the #5 and the #6 that are in the Wolfcamp; is that right?

A. Yes, sir.

Q. And then what is the schedule after that, or do you know?

A. We would want to save the deep rights.

Q. Pardon me?

A. We would want to save the deep rights. So I'm not sure, but my assumption would be that we would drill the 7H and the 8H next.

Q. Okay. So the 7H and the 8H would be on the schedule early, but you don't know when they would be drilled --

A. No, sir.

Q. -- or you don't know in what order?

Would they be the next after the 5 and 6, or do you think that's just a possibility?

A. I would think so, but I'm not sure. I don't -- I don't set the drilling schedule, so --

Q. You're not the person who sets the drilling schedule.

A. And it changes frequently.

Q. Yeah. Okay.

Let me go to the tract map. That's what I need to ask you about. And that was Exhibit 2, I believe, in BTA's notebook.

MR. FELDEWERT: Yes, sir.

Q. (BY EXAMINER BROOKS) Now, the second exhibit page of Exhibit 2 has an ownership breakdown by tract?

A. Yes, sir.

Q. And is that for both the Wolfcamp and the Bone Spring, or are there differences?

A. There are no differences.

Q. There are no differences. Okay.

A. No, sir.

Q. And this has not changed since the prior hearing?

A. No, sir.

Q. So BTA owns 100 percent in Tracts 1 and 2 and also in Tracts 6, 7 and 8. Marathon owns 100 percent in 4, and BTA and -- 4 and 5, right?

A. Marathon in 4 and 5, yes, sir.

Q. And BTA and Marathon are co-owners in Tract 3?

A. Yes, sir.

Q. Now, explain this depth severance issue to me because I didn't follow it in the direct testimony, and I don't remember what was said at the previous hearing.

A. In both our leases and at least one of

Marathon's larger lease, there is a Pugh clause as to depths, and the depths 100 feet below the producing depth will expire if there is not continuous development after the expiration of the primary term of the lease.

Q. And this is in the Wolfcamp?

A. It's anywhere. So if we -- whatever depth we drill to, 100 feet below that, if we don't drill those depths, they will expire. So if we drilled just the Bone Spring, everything else will expire.

Q. But if you drill through the Bone Spring into the Wolfcamp, you get to keep the Bone Spring even though --

A. Yes, sir.

Q. -- even if you don't complete the Bone Spring?

A. Yes, sir.

Q. Okay. Now, this applies to what tracts?

A. So this is Tracts 2, 3 and 5 and maybe 4. I can't remember.

Q. Okay. And that would probably influence your schedule of drilling Wolfcamp first, right?

A. Yes, sir.

Q. And of course also playing into that, 5 and 6 are where in your depth picture? You had that -- you had that on Exhibit 2 -- on Exhibit 21, I believe.

A. Yes, sir. It's in between --

Q. Yeah. They are shallow because they're only -- I mean shallow compared to the -- they're in the shallow part of the Wolfcamp?

A. Yes, sir.

Q. Okay. So the 7 and 8 are the wells you're going to be relying on to develop all -- to earn all your acreage?

A. Yes, sir.

Q. Okay. And you don't know when those will be drilled?

A. No, sir. I just know that we will drill them to save our depth and our leases.

Q. Okay. When does the -- when does your right to drill those expire?

A. Our right to drill?

Q. Well, your right to the acreage.

A. So our leases expire in April of 2019.

Q. April.

And you have a right to earn the bottom of the -- to the bottom of the Wolfcamp anytime up to the expiration of the leases in April?

A. Yes. There is also a continuous development with that. So if we continuously develop this acreage, it extends that as long as we are drilling wells.

Q. And what is the time period on the continuing

development clause?

A. I think it's 120 days.

Q. From the -- from the completion or from what stage?

A. I would have to look back at the clause. I can't remember exactly.

Q. Those schedules have kind of gotten confusing to me because unlike was the custom in horizontal -- in vertical wells and some of these horizontal wells, there are often long delays between drilling and completion. But that's a whole other issue. I'm just trying to flesh out what you know about it.

Okay. Now, there was some talk about federal permits. All of these wells are permitted as federal wells, right?

A. Yes, sir.

Q. And you have the permits on 5, 6, 7 and H [sic]?

A. 7H and 8H.

Q. 7 and 8H.

A. Yes, sir.

Q. The question then would be if those permits have been approved by OCD. And I don't know that OCD does anything specific to approve them, although I'm not really aware of the procedure, but we have always been

very jealous of our claim to a right to do that. Whether we have it or not maybe is something Judge Kavanaugh could address.

MR. FELDEWERT: That's right.

(Laughter.)

Q. (BY EXAMINER BROOKS) But do you know if there has been any actual approval of these permits by the OCD?

A. By the OCD? I know that the permits have been submitted to the OCD and they've been stamped. It takes, I think, a little while for the BLM to get the sundries to the OCD for those to get stamped.

Q. Okay. Yeah. Have there been API numbers issued for those wells?

A. Yes, sir. I believe so.

Q. Okay. I think that's usually -- the district office considers that they've approved them when they issue an API number, but there is no -- there is no rule on that. But apparently the issue -- the technical issue was raised that some of these APDs were filed when you did not have permission, as you probably still do not from Marathon, to drill across their acreage, right?

A. Yes, sir.

Q. But if this Division grants a compulsory pooling order, you will have that permission --

A. Yes, sir.

Q. -- from us?

Okay. Can a federal APD be transferred to another operator?

A. I do not know that.

Q. Neither do I.

A. But I think it can be.

Q. Well, I will attempt to find that out from someone who knows at some point in time, but perhaps if any of the witnesses know a person who knows that they know, I can ask them the question, because I know not and I know that I know not.

Now, there was some talk about surface-use agreements, which I'm in the habit of calling SUCAs [sic], as are some other people. For which wells do you have SUCAs?

A. So for everything that we're drilling from the south is on state lands, so we have approval to build pads. And then on the 9 and the 10H that we're drilling from the north, we have a surface-use agreement in place for both of those wells as well.

Q. Okay. So that's all the wells you're planning to drill in the initial phase?

A. Yes, sir.

Q. Now, you said something about -- testified to

something that you cannot have -- you can get a com agreement unless you have a producing well? Is that your understanding?

A. Yes, sir, from the BLM.

Q. Oh, from the BLM.

A. Yes, sir.

Q. Not necessarily from the SLO?

A. I'm not sure about the SLO.

Q. I wasn't sure about it either, frankly. But that's something that is giving us some headaches presently with the new horizontal well rule. But that's not involved in this. I just wanted to know what you know about it, so thank you.

I think that's all I have.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. I was thinking the same thing Mr. Brooks was, that I know I don't know a lot of stuff here. I'm trying to remember it from April 24th, but I was in a meeting all day yesterday, and it's hard to do. I'll just try to blurt out a few things here.

The new horizontal well rules allows you to do the 100 feet from the end line of the toe and the heel. Are you planning on doing that with your wells?

A. Yes, sir, for the Bone Spring wells.

Q. For the Bone Spring?

A. Bone Spring. I think that's -- I think that's where you can do it, for the Bone Spring wells.

Q. Okay. Because Purple Sage, we've got it excluded from the -- they wanted it to be excluded, for some reason, from the rule. Now I'm getting phone calls (laughter).

MR. FELDEWERT: Yup. Yup.

EXAMINER JONES: That's interesting.

Q. (BY EXAMINER JONES) So you would be faced with getting a nonstandard location if you wanted to actually apply for a closer -- on the Wolfcamp in this area.

Why did you drill from the north on the Bone Spring?

A. Why are we drilling from the north? You know, I'm not really sure, honestly, why we are.

Q. Does it have to do with how many previously approved surface-use agreements that were limited in size that you can't expand them to drill another well and so you -- because that's federal acreage on the south; is that correct?

A. So it's state acreage. Where we're drilling from is our two state leases.

Q. Two state leases, yeah.

A. Yes, sir.

Q. Oh, they have their commercial lease agreements, though, but I guess you're drilling into state minerals --

A. Yes, sir.

Q. -- so I thought they forgave you on that.

MR. FELDEWERT: Mr. Examiner, I know we're going to have another witness. I just checked with him on that. It's pretty tight down there.

THE WITNESS: Yeah. So I think what -- I think what happened, essentially, is there is just issues with surface locations because there is an irrigation ditch in the south. And so --

Q. (BY EXAMINER JONES) Yeah, I saw that. I was going to ask you. Thanks for reminding me, this Carlsbad Irrigation Ditch. And that seems to be the boundary between Tract 4 and Tract 3, is that right, the irrigation ditch -- the current position of the irrigation ditch?

A. Yes, sir. I assume there is an irrigation ditch up there, too, and then I think there is one in the north half of Section 32, which limits surface locations to drill wells, and I think why we're not drilling everything from the south.

Q. Oh, maybe that had an influence on it.

Would that -- so you're pretty sure of the

acreages in all these tracts? That wouldn't change if that -- I guess nothing's going to happen to that ditch.

A. No, sir.

Q. And that might not be a reason your tracts are defined for -- that five acres is what I'm kind of wondering about.

A. Generally a tract is defined by a deed and then it carries through time. That way.

Q. Okay. The depth severance, Mr. Brooks has hashed it out quite a bit. But I know there was some testimony from Marathon's engineer about the lower part of the Wolfcamp being pretty -- maybe more gassy, but pretty decent as far as potential. So -- but you're planning these two infill wells on the Wolfcamp to go down deeper to save some acreage that is going to expire due to a vertical Pugh clause?

A. Yes, sir.

Q. And you had to pick a depth, and so you didn't -- how did you decide -- I guess I can talk to the other witnesses about that. But when you pick that depth, does that mean that Pugh clause is actually going to move down and it's going to expire below that?

A. Yes, sir. It will expire below that.

Q. Okay. At what time will that happen? Years later, or is it pretty quick here?

A. I think after the expiration of the continuous development.

Q. Okay.

A. So if we continuously develop, it extends it out. Yes.

Q. Okay. So before I forget to ask, the 7H and 8H, I don't see them as part of your advertisement on Case 16024 as being compulsory pooled wells here. Are you satisfied that they would be infill wells under the compulsory pooling?

MR. FELDEWERT: You know, Mr. Examiner, the 5H and 6H will go on in the spacing unit. Once those are drilled and completed -- one of those is drilled and completed, that'll form the spacing unit, and then you can drill the infill wells, as they've already proposed.

EXAMINER JONES: But the 5 and 6 are both proposed as initial wells --

MR. FELDEWERT: To form the spacing unit.

EXAMINER JONES: -- to form the Wolfcamp spacing unit?

MR. FELDEWERT: Yeah. Because you don't need to propose eight wells to form a unit. You just need one.

EXAMINER BROOKS: That's the defining well.

MR. FELDEWERT: That's the --

Q. (BY EXAMINER JONES) Concho, are they -- are they one of your owners that you are pooling, or are they just here today in the background because they are a surrounding owner that got notice? Do you know anything about that?

A. They are not in the unit, and I am not sure why they're here.

MS. RYAN: We're just spectators today.

EXAMINER JONES: As Mr. Bruce would say, "Lurking in the background today."

Q. (BY EXAMINER JONES) So the two Bone Spring cases got proposed actually after -- they were actually entered after April 24th, but it was an agreement between BTA and Marathon that would -- and the Division, I guess, to allow the competing cases to be entered? Is that the way you understand it?

A. Yes.

Q. Okay. So you've got rigs working in the east half, and they'll be available to move over. And you'll pretty much drill your Wolfcamp first, it sounds like here, and your Bone Spring will be later because of land issues; is that correct?

A. Yes, sir.

Q. Now, as far as completing at the same time as some of these wells in the lower part of the Bone Spring

that may be affected by the Wolfcamp, is that a consideration in your drilling schedule at all?

A. So that would probably be a better question for the engineer, but I think it is our belief that there really isn't any interference between the Bone Spring and the Wolfcamp.

Q. Okay. So we'll wait. If I remember to ask, we'll wait and ask them later on that.

So your State Land Office com agreements, have you already got those two agreements in place -- or three, I guess? There would be three, right?

A. No. We do not have those in place.

Q. They would be pending this compulsory pooling application?

A. Yes, sir.

Q. Because you wouldn't be able to get Marathon to sign on to it, would you?

A. No, sir.

Q. Okay. I think I better be quiet then and see if there is any redirect.

EXAMINER BROOKS: I had one question. Maybe I didn't clarify as well as I should have. I think I understand the answer but just to make clear.

RECROSS EXAMINATION

BY EXAMINER BROOKS:

Q. Your depth severance would come into effect as to -- what is it? -- 100 feet below deepest depth drilled?

A. Produced -- producing depth, yes, sir.

Q. That would be the deepest perforation in effect?

A. Yes, sir.

Q. 100 feet below the deepest perforation.

And it would come into effect in April of 2019 if you hadn't drilled all the way to the bottom -- basement -- not to the basement, but to the bottom of the Wolfcamp? It would come into effect on that date as to any residual depth below the deepest depth produced?

A. So if we aren't continuously drilling, then yes.

Q. Yeah.

A. Yes, sir.

Q. Well, now, at the end of the primary term, you would -- oh, you would continue to have the option -- the option to drill into that after the primary term, and it would come into effect only if you had not drilled -- drilled -- well, let's see. Even if you had not drilled to a certain depth before the end of the

primary term -- April 2019 is the end of the primary term of your leases?

A. Yes, sir.

Q. And if you have not drilled to a certain depth below that, you would still have the option to do so as long as you had not allowed six months to expire on your drilling schedule from one well to another?

A. Yes. Whatever the time frame is, yes, sir, between completion and drilling of another well.

Q. Yeah.

So if on March 30th, 2019, you've completed a deep Wolfcamp well -- or no. If you've completed a well on March 30, 2019, you would have until September 30 -- but it didn't go all the way to the base of the Wolfcamp, you would have until September 30, 2019 to start the next well. And if you started another well and drilled deeper, then you would earn farther down.

A. Yes, sir.

Q. Okay. I thought I understood it, but I wanted to be sure.

EXAMINER JONES: Before we turn you back over to the friends and the foes here, this notice -- did you complete notice for the formation of the nonstandard proration unit and the nonstandard spacing in the southwest of Section 32? So do you have -- is

that part of this?

MR. FELDEWERT: We were -- if you'll recall, before the new horizontal well rule --

EXAMINER JONES: Okay.

MR. FELDEWERT: -- we did come back and provide evidence of notice to form that. Now that the horizontal well rule is in effect --

EXAMINER BROOKS: It is no longer required.

MR. FELDEWERT: -- it is no longer required.

EXAMINER JONES: So the Purple Sage is excluded as far as the spacing rules that were in place for the Purple Sage, but it's actually participating in the formation of horizontal spacing units here.

MR. FELDEWERT: That's a way of looking at it, yeah. Yeah. The Purple Sage really deals with setbacks.

EXAMINER JONES: Setbacks -- 330 setbacks.

Okay. Thank you.

MS. BRADFUTE: Mr. Examiner, I have a couple more questions.

MR. FELDEWERT: Go.

MS. BRADFUTE: Do you want me to go first?

MR. FELDEWERT: Sure.

MS. BRADFUTE: I apologize. I just came up

with a couple pursuant to your questioning.

MR. FELDEWERT: You get two.

MS. BRADFUTE: That's it.

RECROSS EXAMINATION

BY MS. BRADFUTE:

Q. Ms. Beal, I want to represent to you that Regulation 19.15.13.9 governs the drilling of infill wells -- the proposal, not just the drilling but the proposal of infill wells -- under a compulsory pooling order. And that provision states that when an applicable pool order authorizes one or more infill wells within a proration or spacing unit pooled by the division, then an infill well can only be proposed -- proposed after the completion of an initial well.

Under that provision, BTA cannot even propose the deep Wolfcamp wells, the 7H and the 8H wells, until after it completes the first Wolfcamp well under the order, if an order has been entered by the Division, correct?

MR. FELDEWERT: Let me object. Calls for a legal conclusion, number one. And number two, a lot of that is going to be impacted by the horizontal well rule.

EXAMINER BROOKS: I would have to -- I would think it appropriate to sustain both of those

objections because I haven't figured those issues out myself yet, but I will look at it.

MS. BRADFUTE: Okay. And we'll raise the legal issue.

Q. (BY MS. BRADFUTE) And then the other question I had relates to the Pardue oil and gas leases, which contains the depth severance, Purdue [sic].

A. Yes.

Q. BTA's depth severance issue is also under Purdue [sic] leases, correct?

A. Under the Pardue leases?

Q. Yeah, Pardue leases. Is that where the depth severance is?

A. Not for us, no.

Q. Not for you-all?

A. No. We have separate leases.

Q. Separate leases.

And is it with a different lessor?

A. Yes, ma'am.

Q. Okay. So it's not a Pardue lease?

A. No, ma'am.

Q. Okay. And do you have any idea what the time period is under that lease for the continuance drilling provision?

A. I honestly can't remember.

Q. You can't remember?

A. No.

Q. Do you remember if it contains a provision which requires no cessation of more than 60 consecutive days for operations under the continuous drilling provision?

A. No, I cannot recall.

Q. You just can't recall?

A. No.

Q. And Marathon has searched the county records for a copy of those leases and only found memorandums filed. Do you know if recorded leases have been filed in the county records that would show that information?

A. If there's only memorandums, then that's probably what it is.

Q. Okay. So really we have no way of knowing today, as you sit here, whether or not BTA can act in a timely manner to protect those deep leasehold rights?

MR. FELDEWERT: Object to the form of the question.

Q. (BY MS. BRADFUTE) I mean, we don't know the time frame, right?

EXAMINER BROOKS: Well, if the witness would has an opinion, she can state it and state the basis of it, because she's testifying as an expert

petroleum land negotiator. So I will overrule the objection. If she doesn't know, she can say she doesn't know.

THE WITNESS: Thank you.

Please repeat the question.

Q. (BY MS. BRADFUTE) So do you know, as you sit here today, the timing involved in the consecutive drilling provision?

A. In our leases?

Q. In your leases, in BTA's leases.

A. I cannot recall today.

Q. You can't recall today?

A. I can make an educated guess based on reading it prior, but --

Q. Okay. And what is that educated guess for the timing provision?

A. For the cessation --

Q. For the continuous drilling. How many days do you have to start drilling the next well under your continuous drilling provision?

A. I believe it's between 120 and 160 days.

Q. 160 days.

And do you recall if there is a cessation provision of more than 60 days, more than 90 days included --

A. I don't know the cessation.

Q. Okay. Do you remember seeing a cessation clause within these leases?

A. I don't remember.

Q. Okay. Previously entered into evidence by BTA's attorney during the April 24th hearing was Exhibit Number 18. I don't know if you have a copy in front of you. I only have my copy, so I apologize.

MR. FELDEWERT: Exhibit 18 is the Marathon lease that expires in August -- August of next year?

MS. BRADFUTE: Yes, that's correct.

EXAMINER BROOKS: Well, I'm certainly glad we don't have a lease that expires in August of this year.

(Laughter.)

MR. FELDEWERT: I actually thought it expired in August of this year.

Q. (BY MS. BRADFUTE) If you could please look at the second page of that lease agreement and I want to focus on paragraph six.

EXAMINER BROOKS: What paragraph?

MS. BRADFUTE: Paragraph six.

Q. (BY MS. BRADFUTE) Ms. Beal, does this paragraph state that Marathon's lease will not terminate if continuous additional drilling is started within 60

days?

A. Yes.

Q. And it has a no cessation of those drilling operations of more than 60 consecutive days, correct?

A. Yes.

Q. Okay. That concludes my questions. Thank you.

MR. FELDEWERT: Finished?

MS. BRADFUTE: I am.

REDIRECT EXAMINATION

BY MR. FELDEWERT:

Q. The Pugh clause for that is -- part of Exhibit 18 is on the next page, right?

A. Yes, ma'am -- I mean yes, sir. Sorry.

Q. Okay. So that would govern that depth-severance concern?

A. Yes, sir.

Q. All right. And certainly BTA's leases -- this lease doesn't expire until August of next year?

A. Yes, sir.

Q. When does BTA's lease expire?

A. April.

Q. April.

So you've got every incentive to get this moving forward?

A. Yes, sir.

Q. In fact, you've been working to get this moving forward starting with BC Operating prior to June of last year, the company has, correct?

A. Yes, sir.

Q. And I want to remind the Examiners, when you approached BC Operating and you said you wanted to move forward with developing the Wolfcamp, what did the company tell you?

A. They said they had no problem with our development plan and to go ahead and move forward.

Q. So you may not have had a written agreement, but they had said to move in forward, right?

A. Yes, sir.

Q. So you filed your federal APDs?

A. Yes, sir.

Q. And thank goodness because now we have them in hand?

A. Yes, sir.

Q. Okay. And you guys can get these Wolfcamp wells drilled to deal with these leases?

A. Yes, sir.

Q. And just so I understand, if I look at Exhibit 21, when you drill the 5H and the 6H, which is your -- you have the APDs ready to go -- those wells are going to hold the lease down below 100 feet below those wells,

correct?

A. Yes, sir.

Q. And when you move down to drill the 7 and the 8H, either under infill or new horizontal well rules, that will then -- once those are drilled, will hold the lease down to 100 feet below those depths?

A. Yes, sir.

Q. And that satisfies everybody's concerns?

A. Yes, sir.

Q. In fact, we confirmed that at the last hearing, right?

A. Yes, sir.

Q. Okay. So you don't need the Bone Spring wells to hold the leases?

A. No, sir.

Q. Now, they mentioned the timeline here and the fact that you-all filed pooling applications. So if I go to Exhibit Number 6, you had been discussing this with Marathon for -- starting in June?

A. Yes, sir.

Q. And as late as February of -- or January -- I'm sorry -- February 12th, they were going to provide you feedback on a JOA?

A. Yes, sir.

Q. Now, this was after -- this was after you had

already dealt with the AFE costs, right?

A. Yes, sir.

Q. Look at the timeline. They questioned your AFE costs, and you submitted new AFE costs for the 5H and the 6H?

A. Yes, sir.

Q. And even after that, they said, We'll give you feedback on your JOA?

A. Yes, sir.

Q. And at no point during that period of time did they say, Oh, you're going to have to go get pooling?

A. No, sir.

Q. Okay. And you didn't know that until they filed their competing well proposals in February of 2018?

A. Yes, sir.

Q. So this is June, July, August, September, October, November, December, January, February. Nine months later, they file their competing well proposals?

A. Yes, sir.

Q. So you had had nine months of discussions, nine months of them stringing you along --

A. Yes, sir.

MS. BRADFUTE: Object to form.

Q. (BY MR. FELDEWERT) -- and then you get their

competing well proposals; is that correct?

A. Yes, sir.

Q. So at that point in time, was it pretty clear that they were going to want to operate even though they only owned less than 30 percent?

A. Yes, sir.

Q. Is that why you then filed the well proposals and pooling applications necessary to get this moving forward so that we could get these wells drilled and save the leases?

A. Yes, sir.

MR. FELDEWERT: That's all I have.

EXAMINER JONES: Mr. Bruce, did you have anything?

MR. BRUCE: (Indicating.)

EXAMINER BROOKS: I have one, which is irrelevant, but I'll ask it anyway.

RECROSS EXAMINATION

BY EXAMINER BROOKS:

Q. The Pardue lease, do you know if that's the same family as Ashley Pardue?

A. I do not.

Q. Neither do I.

RECROSS EXAMINATION

BY EXAMINER JONES:

Q. What about the Ogdens? Where did that name come from?

A. It's -- it's actually a family that's in the east-half unit, and some of the leases are the Ogdens'.

Q. Okay.

A. Yes, sir.

Q. Okay. Thanks very much.

EXAMINER JONES: Let's take ten at least.

(Recess, 9:56 a.m. to 10:17 a.m.)

EXAMINER JONES: Let's go back on the record and continue with the BTA cases.

MR. FELDEWERT: We will call our next witness.

RAJENDRA ETI,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Would you please state your name, identify by whom you're employed and in what capacity?

A. I'm Rajendra Eti. I'm employed by BTA Oil Producers, LLC. I'm working as a geoscientist.

Q. Mr. Eti, did you previously testify before this

Division in April as an expert witness in petroleum geology and geoscience?

A. Yes, sir.

Q. In fact, don't you hold a master's degree in geophysics?

A. Yes, sir.

Q. Are you familiar with the applications filed in these consolidated cases?

A. Yes, sir.

Q. Have you conducted a study of the lands that are the subject of this hearing?

A. Yes, sir.

MR. FELDEWERT: I would retender Mr. Eti as an expert witness in petroleum geology and geoscience.

EXAMINER JONES: Any objection?

MR. BRUCE: No objection.

MS. BRADFUTE: No objection.

EXAMINER JONES: So qualified.

Q. (BY MR. FELDEWERT) Now, what's the -- if I look at BTA Exhibit 21 -- Exhibit 21 --

A. 21, right.

Q. -- so the next volume --

A. Oh.

Q. -- we've talked about the 5H and 6H and the 7H and the 8H. I want to talk about the 9H and the 10H on

the left-hand side, the Ogden 9H and 10H. What's the target formation for those initial wells in the two proposed 240-acre spacing unit?

A. 3rd Bone Spring.

Q. Okay. And have you prepared a structure map and a cross section for this targeted interval?

A. Yes, sir.

Q. All right. If I go to Exhibit 31 in that same notebook, is this a structure map that you have created?

A. Yes, sir.

Q. And does it identify the acreage at issue in yellow?

A. Yes, sir, it does.

Q. Okay. What do you observe with respect to the structure across this area?

A. I don't see any impediment to horizontal drilling in this, and I don't see any faulting in this structure map.

Q. Now, has there been much development in the 3rd Bone Spring in this area?

A. No, sir, not much development.

Q. Okay. The extent to which there's been development, has it been stand-up or lay-down?

A. It's basically both. Yeah.

Q. Do you see any appreciable differences whether

you drill stand-up or lay-down wells in the Bone Spring in this area?

A. No, sir.

Q. Is there an advantage to utilizing stand-up wells?

A. Yes, sir. We'll have fewer geosteering issues if we do stand-up.

Q. Okay. Now, I see a -- it looks like a cross-section line on here in blue; is that correct?

A. Yes, sir.

Q. And how many wells did you utilize for your cross section?

A. Three wells.

Q. Two of which --

A. Two of which are in the acreage of question.

Q. Okay. So is that one of the reasons you chose these particular wells?

A. Yes, sir.

Q. What about the logs for these wells? Were they sufficient to do the analysis?

A. Yes, sir, they're sufficient.

Q. All right. Then if I turn to what's been marked as BTA Exhibit Number 32, is this the stratigraphic cross section associated with the three wells identified in the prior exhibit?

A. Yes, sir.

Q. Okay. Would you kind of identify for us how you note the tops and the bottoms of the formations at issue?

A. Yes, sir.

So in this cross section here, you can basically see an orange-colored horizon, which is labeled as the 3rd Bone Spring Sand. And then there is a Wolfcamp top, which is labeled -- it's brown in color. And then you also see a Wolfcamp A Sand top, which is like a gray color, and I also picked a Wolfcamp A Sand base, which is a blue color. And the light pink color is the Wolfcamp B Sand top, and the Upper Wolfcamp is the purple color.

And the Wolfcamp landing zone will be between the Wolfcamp B Sand top and the Upper Wolfcamp. And the 3rd Bone Spring Sand landing zone is between the 3rd Bone Spring Sand top and the Wolfcamp Sand top -- Wolfcamp top.

Q. Last time you were here, you talked about the Wolfcamp landing zone. But what do you observe with respect to the 3rd Bone Spring landing zone?

A. What I basically see is that it's pretty continuous for the area, and I don't see any -- any faulting based on the log correlations. That's what I

see.

Q. And what do you observe with respect to the nature of the reservoir? Is it fairly continuous?

A. It's fairly continuous over the area.

Q. In your opinion, is this an area that can be efficiently and economically developed by horizontal wells?

A. Yes, sir.

Q. And in your opinion, will the proposed acreage for each spacing unit contribute more or less equally to production from the dedicated well?

A. Yes, sir.

Q. Now, in this particular area, we have a Wolf -- I'm sorry. We have a Bone Spring oil pool; is that right?

A. Yes, sir.

Q. And then after hearing, the Division created a Wolfcamp gas pool?

A. Yes, sir.

Q. Now, over in Lea County --

A. Yes, sir.

Q. -- are you aware over there that there is -- is the geology different over there in Lea County?

A. A little bit.

Q. Okay. In fact, isn't there portions of Lea

County where they have -- the Division has analyzed the data and created what they call a Wolfbone Pool?

A. Yes, sir.

Q. In which they take the Lower Bone Spring and combine it with the Upper Wolfcamp zones?

A. Yes, sir.

Q. Now, that pool does not exist in Eddy County?

A. It does not exist in Eddy County.

Q. And in Eddy County, am I correct that the Division, having analyzed the data, treats the Lower Bone Spring and the Upper Wolfcamp as separate pools?

A. Yes, sir.

Q. As separate sources of supply?

A. Yes, sir.

Q. Do you agree with the Division that the Lower Bone Spring and the Upper Wolfcamp are separate sources of supply?

A. Yes, sir.

Q. Have you examined whether any mechanical barrier exists between the Bone Spring and the Wolfcamp Formations in this area of Eddy County?

A. Yes, sir, we did.

Q. And have you -- and what have you found?

A. We found that there is a barrier that exists between the 3rd Bone Spring Sand and the Wolfcamp

Sand -- and the Wolfcamp Sand. And any completion in the Wolfcamp wouldn't go into the 3rd Bone Spring, and any completion in the 3rd Bone Spring would not influence the Wolfcamp Sand.

Q. Okay. And have you prepared exhibits to support your conclusions?

A. Yes, sir, we did.

Q. All right. I want to turn to what's been marked as BTA Exhibit Number 33. You have to pull it down a little bit. Does this show a cross section you put together?

A. Yes, sir.

Q. Of the wells that were utilized for the cross section, right?

A. Pardon me?

Q. This shows the wells that were utilized for the cross section?

A. Yes, sir.

Q. How many wells did you use?

A. Three wells.

Q. Where on this particular map is the acreage at issue?

A. The acreage at issue is HSN [sic] to the northernmost well in the cross section with API Number 3001534572, and it's a white elation [sic] color. The

acreage is marked with -- yellow in color.

Q. All right. So I want you to put your finger right here, and I want you to go back to Exhibit 31. Can you identify for us where that first data point is on Exhibit 31?

A. Yes, sir. This is -- that's in the northernmost well in Section 30.

Q. So get me an orien- -- oriented. If I look at the shaded acreage and I go to the left, west of that, we see Section 30?

A. Yes, sir.

Q. And there is a well up there in the north half-north half of 30?

A. Yes, sir.

Q. And that corresponds with -- that's the well that was utilized in your first data point for Exhibit Number 33?

A. Yes, sir.

Q. All right. Then where are the remaining data points here?

A. The remaining data points are like -- the last well in the cross section is where we have the frac model. That's in the area called Tetris, in Texas. And I chose another well in the middle so that we'll -- so to demonstrate the continuity of the stratigraphic.

And, also, it's basically the major axis -- the axis where you find the whole production of the Wolfcamp Sand along this cross section.

Q. Okay. Now, so the data point down here at the bottom that we see with that number that ends 1,000 with --

A. Yes, sir.

Q. -- that is what you call the Tetris acreage?

A. Yes, sir.

Q. How do you spell it?

A. T-E-T-R-I-S.

Q. Okay. And that's in Reeves County?

A. Yes, sir.

Q. Texas?

A. Yes, sir.

Q. Okay. Why did you choose a data point here in Reeves County, Texas?

A. You know, we have carried the frac modeling over this area like a year and a half ago and --

Q. You did it a year and a half ago?

A. Year and a half ago.

Q. Long before this case?

A. Long before this case.

Q. Go ahead.

A. Because we wanted to understand everything

that's going on here, and so that's the reason I had to choose this well, because we have this history. For one-and-a-half year we have drilled wells in the Wolfcamp. We have a history of production. So you can correlate the model with the production. And geologically, if you see all the production of the Wolfcamp Sand-drilled wells, the axis pretty much goes along this cross section that I put together. So you see a lot of drilling happening south of Ogden, along this axis. And you see these Wolfcamp wells even in the Tetris area going up north to this well.

Q. Who did this study that you --

A. The frac model was carried out by Schlumberger.

Q. Schlumberger. Okay.

All right. And if I go then to the next exhibit, which is Exhibit Number 34, I see this Tetris area on the right-hand side; is that right?

A. Yes, sir.

Q. I don't want to get to that yet.

But that well -- we see, then, three well logs on the left-hand side?

A. Yes, sir.

Q. The well on the far left, is that the first data point that we talked about, our three acres next to the acres that are at issue?

A. Yes, sir.

Q. Okay. And then you have the well in between the Tetris area on the right?

A. Yes, sir.

Q. Then we see the well logs. What is the inset there that's labeled "Tetris 2H"? Underneath that, I see a bunch of colors. What is that?

A. That inset is the frac modeling that was carried out by Schlumberger, which would help us in determining how the frac behaves.

Q. Now, when you -- when you put this -- when you put together -- and we looked at it yesterday. It was kind of difficult to read, right?

A. Yes.

Q. So if I go to the second page of this exhibit, does it provide a more readable version of the inset that we see on the first page on the right-hand side?

A. Yes, sir.

Q. All right. So let's go to that first. And this is the analysis that was done by Schlumberger?

A. Yes, sir.

Q. What is on the left-hand side of this?

A. On the left-hand side of this particular display is the logs that have been collected by Schlumberger for BTA Oil.

Q. And then when I move to the right, I see some pink, I see some orange, I see some red, looks like hives?

A. Yes, sir.

Q. What is that?

A. If we concentrate on the last two columns, like -- and especially if we concentrate on the one which has this orange color and the pink color, that's basically the frac model. And the third column from the right, you see a horizontal line. That corresponds to a modeling study for a landing point of 10,494, which is labeled -- so this model tells how the frac propagates if a landing point was placed at that particular depth.

Q. Okay. Let me stop you right there. So I'm looking at -- kind of a greenish horizontal line in the third column from the right?

A. Yes, sir.

Q. Right where that orange is?

A. Yes, sir.

Q. Okay. And what zone -- what correlative zone is that in?

A. That would be a 3rd Bone Spring.

Q. All right. And then -- so that would be the modeling point, correct?

A. Yes, sir.

Q. All right. Then -- and Schlumberger did this?

A. Yes, sir.

Q. All right. When they did the analysis, what does the oranges and the pinks mean?

A. The orange and the pink -- the height basically displays like how high the frac is going and if there are any barriers. The orange means that that's where the proppant is going, and the pink means that the water is going there. So the extent of the orange is basically where the proppant is going, and that's where the production will be coming from.

Q. Okay. So the important part of the analysis here is the orange area?

A. Yes, sir.

Q. Because that's where the proppant is?

A. Yes, sir.

Q. And what did Schlumberger find when they did the analysis?

A. When Schlumberger did the analysis, they noticed that any frac -- any frac that was initiated in the Bone Spring would not propagate into the Wolfcamp.

Q. Okay. And that's reflected with the orange area?

A. Yes, sir. So if you see the orange area, the orange area pretty much stops at 10,550 in the lower

part. So the bottom part where the frac stops is 10,550. And if I go back to the earlier page where we have the wells, you can see I have labeled what is called the barrier. That's where the orange is stopping, and that barrier kind of corresponds to the Wolfcamp A Sand top. And you can see the correlations -- very good correlation all the way into the study area.

Q. Okay. Let me stop you right there. I'm on the first page of this exhibit. I see on the right-hand side a box that says "Barrier," and you've got an arrow pointing to it?

A. Yes, sir.

Q. And I see a dashed line?

A. Yes, sir.

Q. Okay. Then did you, with your cross section, take the location of that dashed-line area and correlate it to the area in question?

A. Yes, sir.

Q. And that would be on the left-hand side of that wellbore line?

A. Yes, sir.

Q. And when you extend that barrier into the area at issue, we see it corresponding when you say top of the Wolfcamp Sand?

A. Yeah. A Sand, yeah.

Q. A Sand.

All right. Now, the other thing that you can either observe on this page or on the other page is the last -- very last column --

A. Yes, sir.

Q. -- do you see those -- they look like hives to me.

A. Yes, sir.

Q. Okay? What does that represent? What is Schlumberger showing there?

A. What Schlumberger is showing that fracture along -- along which the fracture propagates, and you can see the thick and the thin. The thick corresponds to the orange blob in the second, last figure, and you can see, as you kind of come to where the orange blob ends, the fracture is narrowing. So that's the reason why the proppant is unable to propagate down below that particular point. And also the same thing when you think about upper hole [sic]. Yeah.

Q. All right. Then having looked at this data and analyzed the logs, in your opinion, does the barrier that Schlumberger observed in the Tetris area extend into the acreage in question?

A. Yes, sir, it does.

Q. Okay. So we have a similar geologic setting?

A. Yes, sir.

Q. In your opinion, will a horizontal well developing the 3rd Bone Spring Sand develop the upper part of the Wolfcamp?

A. No.

Q. If I then go to Exhibit 35, is this the same type of analysis but looking at it from a different perspective?

A. Yes, sir.

Q. And what's the difference here?

A. The difference here from the earlier picture, in the earlier picture, the modeling point was placed in the 3rd Bone Spring, and in this particular picture, the modeling point is in the Wolfcamp Sand.

Q. Okay. So let's go to Exhibit 35, the second page, where we can see it a little easier. And if I'm looking at the third column from the right --

A. Yes, sir.

Q. -- I see that same little kind of greenish bar?

A. Yes, sir.

Q. Right where the orange and the yellow come together?

A. Yes, sir.

Q. That is the modeling point?

A. That's the modeling point.

(Examiner Brooks exits the room.)

Q. And that is located in what correlative zone?

A. It's in the Wolfcamp B Sand.

Q. All right. Do we see the same observations by Schlumberger about a frac barrier?

A. Yes, sir. Even in this figure, what we -- even in this modeling, what we see is there is a frac barrier that is stopping the proppant from going up above the Wolfcamp Sand B and into the Bone Spring. And you can also see that in the frac aperture -- like, there is a frac aperture, and that is done right at the top of the Wolfcamp B Sand.

Q. Okay. So if I keep that in mind and I go to the first page of this exhibit, did you identify, as you did in the prior exhibit, the location of this barrier?

(Examiner Brooks enters the room.)

A. Yes, sir. The barrier is labeled in this figure, and as you trace, you can see that the barrier is close to the Wolfcamp B Sand top, and that top can be correlated all the way into the Ogden area.

Q. So when you look at this, in your opinion, if you complete a well in the Upper Wolfcamp Sand for a horizontal well, is there a barrier that prevents the development of the Lower Bone Spring Sand?

A. Yes, sir.

Q. Now, this was a study done by Schlumberger?

A. Yes, sir.

Q. With data checked by Schlumberger?

A. Yes, sir.

Q. In your opinion, did Schlumberger's analysis examine a geologic setting similar to the acreage at issue?

A. Yes, sir.

Q. Do you see any evidence to indicate that the Lower Bone Spring and the Upper Wolfcamp comprises the same pool or the same source of supply in this part of Eddy County?

A. No, sir.

Q. And what I mean by "this part," I'm talking about the acreage at issue.

A. Yes, sir.

Q. Do you agree that the Division properly treats these zones, the Lower Bone Spring and the Upper Wolfcamp, as separate pools in Eddy County --

A. Yes, sir.

Q. -- as separate sources of supply?

A. Yes, sir.

Q. Do you believe that a mechanical barrier exists between the Lower Bone Spring and the Upper Wolfcamp in

Eddy County?

A. Yes, sir.

Q. And do you believe that that barrier is sufficient to prevent communication between horizontal wells completed in these two different pools?

A. Yes, sir.

Q. Do you see any evidence to indicate that the Division should require operators in this area to develop these separate zones simultaneously?

A. No.

Q. And finally, do you believe that waste will occur if BTA develops the Upper Wolfcamp in the Lower Bone Spring zones independently as separate sources of supply?

A. No.

Q. In your opinion, will BTA's development plan for the acreage where it owns over 70 percent cause waste?

A. No.

Q. And in your opinion, is the granting of BTA's application to pool a 480-acre Wolfcamp spacing unit in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, sir.

Q. And in your opinion, is the granting of BTA's

separate applications to pool 240-acre spacing units in the Bone Spring oil pool in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, sir.

Q. Were BTA's Exhibits 33 through 35 prepared by you or compiled under your direction and supervision?

A. Yes, sir.

MR. FELDEWERT: Mr. Examiner, I would move the admission into evidence of BTA Exhibits 32, 33, 34 and 35.

EXAMINER JONES: Any objection?

MR. BRUCE: No objection.

MS. BRADFUTE: No objection.

EXAMINER JONES: Exhibits 32, 33, 34 and 35 are admitted.

(BTA Oil Producers, LLC Exhibit Numbers 32 through 35 are offered and admitted into evidence.)

MR. FELDEWERT: That concludes my examination of this witness.

MR. BRUCE: No questions.

MS. BRADFUTE: I have a few questions.

CROSS-EXAMINATION

BY MS. BRADFUTE:

Q. Good morning, Mr. Eti.

A. Good morning.

Q. How are you?

A. Good.

Q. You testified earlier that you did not observe any faulting of the Bone Spring Formation, correct?

A. Yeah. Yeah.

Q. Okay. And what information did you look at when you came to the conclusion that there was no faulting in the area?

A. Well logs.

Q. Okay. You looked at well logs?

A. Yes.

Q. Did you review any seismic data?

A. No, I did not.

Q. Okay. So that corresponds with your earlier testimony in these cases related to the Wolfcamp Formation. Do you remember, likewise, testifying on April 24th that you did not observe any impediments or faulting within the Wolfcamp Formation?

A. That's true.

Q. Okay. Mr. Eti, I briefly covered this with Ms. Beal, but I'm just trying to pin down when these

wells will be drilled and completed. Let me go back to BTA Exhibit Number 28 -- no, I apologize, not 28.

MR. FELDEWERT: 21?

Q. (BY MS. BRADFUTE) 24. And were you present for Ms. Beal's testimony earlier this morning?

A. Yeah.

Q. And Ms. Beal testified this exhibit outlined the order in which BTA's proposed wells would be drilled, correct?

A. Okay. Yeah.

MR. FELDEWERT: Well, objection. She didn't testify to that. She didn't testify that this was the order. She testified that these are the spacing units that are involved for each initial well.

MS. BRADFUTE: Okay. Well, I remember her stating it represented the order that they were going down, but it may not be.

EXAMINER BROOKS: Is this 24?

MS. BRADFUTE: Yeah, Exhibit Number 24. And we'll go through. This is the point of the question, is to confirm the order, and I have some confusion with that.

EXAMINER BROOKS: Okay.

Q. (BY MS. BRADFUTE) If you could look at the first page of Exhibit 24, does this document contain a

diagram on the wells that will be drilled under Case Number 16024, the spacing unit for the 6H and the 5H wells?

A. Yes.

Q. These are the Upper Wolfcamp wells, correct?

A. Yes.

Q. And those wells have a proposed TVD of 9,450 feet?

A. Uh-huh.

Q. Okay. When will these wells be drilled?

A. I guess -- my basic job is trying to see if there are any faulting and giving a geological opinion on whether they should be drilled or whether there are any faults or there are not. When it comes to when they are going to be drilled, there are many other issues that I'm not really involved in, and I think it's better for the management to address the issue of the land and the supervisor to address the issue as to when.

Q. Okay. So the correct witness would be the land witness to say when the wells are going to be drilled?

A. I'm not saying the land department would be, but they may know more than me as far as the timing of those wells because there are another host of issues. So my -- my responsibility is basically trying to get the geology of the area rather than the timing.

Q. Okay. So you're not involved in the timing of when these wells will be drilled; is that correct?

A. They will -- what happens is they'll inform me. They will be informing me at some point in time as to when, but I believe, like, you know, the best person to address is not me.

Q. Okay. So you have not yet been informed as to when the 5H and the 6H wells will be drilled, correct?

A. The exact date? Because the schedule keeps -- it depends on the availability. We will be drilling. It's there I think -- we will be drilling, but it depends on how this case goes or things like that, but not an exact date. I don't know the exact date.

Q. Okay. Will these be the first two wells that BTA drills within the proposed spacing units?

A. I believe so.

Q. And do you know -- in comparison to when these wells are drilled, do you know when they'll be completed? Have you been involved in discussions within BTA's team about when these will be completed after they're drilled?

A. I guess these things keep changing as the availability of the rig and when these things come up, so I think it's -- again, I would defer this question to the people who can better address this question.

Q. Okay. Likewise, do you not have any knowledge concerning when the Bone Spring wells will be drilled and completed, the 9H and the 10H wells?

A. Once again, I will defer this question to somebody who can address this question better than me.

Q. Okay. And do you know when the Lower Wolfcamp wells will be drilled and completed, the 7H and the 8H wells?

A. I think it's the same thing. Like, you know, when it comes to timing and drilling, I will defer this question to them.

Q. Okay. And the second set of wells that Ms. Beal testified about being drilled were the Lower Wolfcamp wells, correct, the 7H and the 8H wells?

MR. FELDEWERT: I think her testimony speaks for itself.

Q. (BY MS. BRADFUTE) Okay. I just want to confirm that that's your understanding from the geology -- within BTA's team.

MR. FELDEWERT: He just testified what his understanding is.

Q. (BY MS. BRADFUTE) Okay. To summarize, you don't have an understanding of a current time when these wells will be drilled?

A. Yeah. I'm only concerned -- I'm mainly

concerned with the geological aspects of the project, and I would basically leave these questions mainly to the better judgment of the management and the land, depending how all the issues are going because I'm concentrating more on the geology.

Q. Okay. And you have no current understanding of the order in which these wells will be drilled, like which wells will be drilled first, second, third, the stages of development, correct?

A. Yeah. Once again, I would defer those questions to the people who are in charge of that. Yes.

Q. Okay. I want to turn to your Exhibit 33. And this is a map which shows the wells listed in your cross section for the Schlumberger analysis that was performed; is that correct?

A. Uh-huh. Yes.

Q. Did you study any 3rd Bone Spring Sand wells that would be drilled within the vicinity of the Ogden spacing units?

A. Yeah. I looked at the production. Yeah. There were two wells. In fact, in one of the earlier exhibits, you will see the wells -- the horizontal wells that have been drilled and completed. I believe they're by OXY. If you go to Exhibit Number 31, they have two wells not of the proposed -- not of the current --

Section 18 and Section 8, one stand-up and one lay-down well.

Q. But the logs for those wells aren't included in Schlumberger's analysis in Exhibit 34, correct?

A. Correct. The logs for those two wells -- I don't think we have those logs available.

Q. So it might be due to the availability of those logs?

A. Yeah.

Q. Have you studied any other 3rd Bone Spring wells related to potential mechanical barriers within the vicinity of the Ogden spacing units?

A. There are not that many wells drilled there. As you can see, I guess Marathon proposed to drill a few wells. Those are the only two wells. There is not much activity in the Bone Spring in that area.

Q. We might hear Marathon's witnesses differ from that later on.

A. Okay.

Q. I want to talk about the Schlumberger models, and I want to discuss the inputs that were used for these models.

A. Okay.

Q. Could you please turn to Exhibit Number 34?

A. 34.

Q. If you could look at Schlumberger's analysis, I realize this is hard to read, and there might be a more clear picture on the second page of this exhibit.

A. Uh-huh.

Q. So let's look at the second page, since it's a little more legible. Could you walk me through what the inputs are in the different charts that are shown here?

A. Yeah. So the inputs here -- as you can see in this, the gamma ray is the leftmost one.

Q. On. And what information was used to get that gamma ray information? I mean what data was used?

A. That's the data collected. You basically send a -- and collect the information. So that's collected data.

Q. Where was that collected data taken from?

A. That was taken from the Tetris well that's present in the section.

Q. That's just the gamma ray from the Tetris?

A. Yeah.

Q. What's the next one?

A. Affected porosity.

Q. Is that porosity just for the Tetris well?

A. Yes.

Q. Solely from the Tetris well down in Reeves County?

A. Yes.

Q. And the next column, what does that show?

A. It shows the permeability.

Q. That's the permeability from the Tetris well?

A. From the Tetris well.

Q. Okay. Where is the pressure? Is there pressure shown?

A. The stress, as you can see -- I don't exactly see the pressure here, but you see the stresses in the fourth one from the right.

Q. And the fourth one from the right, that's the next column over. And where -- you said you don't see pressure, but you see stresses. So how does stress show you the pressure?

A. Yeah. So the pressure is basically -- was collected like from the -- Schlumberger has a lot of information in this particular area.

Q. And Reeves County?

A. Yeah, in this area. And then we have some present data in our wells, so Schlumberger uses the information provided by BTA.

Q. And is the pressure data similar to what it would be within the Ogden spacing unit?

A. Yeah, I believe so.

Q. And why do you believe so?

A. Because -- because the way the wells are being drilled there, as you can see, the pressures would pretty much behave the same because there is no casing point or five point where you enter these areas where the pressure appreciably changes.

Q. And here we're looking, at the top of this page, at the landing point of 10,494 feet?

A. Yes.

Q. But you just testified earlier that the TVD for the Ogden wells, at least in the Upper Wolfcamp wells, was 9,450 feet, right?

A. Yes.

Q. And the TVD for the 3rd Bone Spring Sand wells, is that approximately 9,290 feet that's been proposed?

A. Pardon me?

MR. FELDEWERT: Are you talking about the 3rd Bone Spring?

THE WITNESS: 3rd Bone Spring.

MS. BRADFUTE: Yeah.

THE WITNESS: It would be in that area.

Q. (BY MS. BRADFUTE) There would be 200 feet difference between those two zones, those two TVDs?

A. Uh-huh. Uh-huh.

Q. I want to turn back to the chart. The yellow graph, what is the --

A. Pardon me. Which one?

Q. Kind of this yellow bar right there.

A. Yeah. That's basically from the gamma ray log and the porosity -- the gamma ray log and the spectral gamma ray log.

Q. Next column over, what is the input?

A. Poisson's ratio -- particular well to get that value.

Q. And it's in that particular well, meaning the Tetris well?

A. Yes.

Q. Next column over, what's the input for that?

A. The input is also basically from the previous curves you see in here, so that's basically calculated from the earlier -- that's basically the calculated value based on the other log data we have, like the sonic data.

Q. And what do you mean it's basically calculated? Is there some or -- of the sum? Does it go into an equation?

A. Yes. It goes into an equation.

Q. Okay. What does that equation evaluate? What does this chart tell you?

A. This basically gives us an idea on basically how the stresses would be particular -- of the rock and

stuff. That's what this curve will help with. This curve helps us in determining the stresses that's going into the input of the next one.

Q. Let's move to the next one. What is the input there?

A. The input into this one -- model and other -- you have in there that you have collected.

Q. And do you know what that underlying data would be? The logs for the Tetris well, correct?

A. Yes.

Q. And then finally, there is column labeled "Stress."

A. Yes.

Q. And that is the stress results that are generated?

A. That are generated based on the calculations that were done in the previous columns.

Q. Okay. And did you complete off of these same inputs for the Ogden area?

A. In the Ogden area, no. We don't have the data there.

Q. Okay. And you don't have any data from wells within the same vicinity, correct?

A. Yeah. We don't have.

Q. You testified earlier that you believe there is

a mechanical barrier in between the 3rd Bone Spring Sand and the Upper Wolfcamp zone, right?

A. Yes. Yes.

Q. What do you mean by mechanical barrier?

A. What I mean is the frac is not going to break through that particular layer.

Q. Okay. So you don't see -- you don't foresee the frac actually extending that 200 feet up into the next --

A. So like based on the model that we have here in Tetris, a well that has been landed in the Wolfcamp B Sand is not going to go into the Bone Spring Sand. So the layers which are stopping the proppant, that's what I'm calling the mechanical barrier. It's stopping the proppant from propagating up. Any layer that is stopping, that is what I meant by mechanical barrier.

Q. Okay. I want to briefly switch topics into well spacing.

A. Uh-huh.

Q. Previously, during the April 24th hearing, BTA's testimony was that it was using spacing of four wells per section so four-well-per-section spacing. Is that still currently BTA's plan for development for this area?

A. Yeah, I believe so.

Q. Okay. And it may help if we look at Exhibit 21. So if we focus on the upper, left-hand side of this exhibit, it looks like there's going to be two wells in each zone proposed by BTA which would then result in four wells per section being drilled in each zone, correct?

A. Yes.

Q. Okay. I want to kind of see what the difference is or what your understanding of the difference is between some of these different geologic formations. Does the Wolfcamp Sand have different petrophysical properties from the Wolfcamp Formation?

A. From the Lower Wolfcamp?

Q. Yeah.

A. Yeah. Yes.

Q. How do they differ?

A. The Lower Wolfcamp is predominantly shale. The Bone Spring is sand.

Q. Okay. So do they have different permeabilities and different porosities?

A. They could have. Yeah, they could have.

Q. They could have.

Do you know if they have?

A. I don't remember right now.

Q. Okay.

A. Yeah.

Q. Would it help to look back at your Wolfcamp exhibits?

A. Yeah.

Q. Your exhibits in the Wolfcamp case, starting with your cross section, is located under Exhibit 13. Does this document help you determine if there are different permeabilities and porosities between the Upper and Lower Wolfcamp?

A. So in 13 -- I'm looking at 13, Wolfcamp, Bone Spring landing zone. I'm looking at the porosities here.

Q. Okay. And there is another cross section in 14 as well.

A. In 14? Okay.

Q. And, again, we're looking to see if these exhibits tell you anything -- inform you about the differences in the porosity or the permeability between the Upper Wolfcamp Sand and the Upper Wolfcamp Formation.

A. Yeah. I'm looking at these two exhibits, which has the -- these are showing -- these are not showing the Lower Wolfcamp in here. What I'm showing is the Upper Wolfcamp Sand.

Q. Did you prepare any exhibits studying the

geology of the Lower Wolfcamp Formation?

A. I don't remember.

Q. Okay. I looked through and I haven't seen the Lower Wolfcamp right now as I'm asking these questions. So would you agree that there are not any logs or cross sections that have been presented by BTA concerning the Lower Wolfcamp Formation?

A. I don't remember if we have presented them or not.

Q. Okay. Could you flip through your exhibits and confirm?

A. Yeah.

I don't see any in the presentation of having any Wolfcamp -- Lower Wolfcamp.

Q. Yeah, Lower Wolfcamp. We refer to it as D, as in David. In your professional experience, have you seen different permeability and porosity rates between the Wolfcamp and the Lower Wolfcamp Formation?

A. Between?

Q. Yeah. Are there differences in the permeability rates in the Upper Wolfcamp and the Lower Wolfcamp?

A. Yes, between those two and also laterally between the same formation, too.

Q. And laterally. Okay.

Generally, is there lower permeability in the lower portions of the Wolfcamp?

A. I can't generalize this one here. I need to look at the log and say, Okay, there is a difference. That's what I would like to do.

Q. At this point, you don't know?

A. At this point in time, yeah. I always like to see the evidence before saying one way or the other.

Q. To your knowledge, you cannot -- conducted that study that you can remember today?

A. Yeah. I don't remember kind of the exact numbers as to how different they are.

Q. Okay. Did you study permeability and porosity differences between the planned -- the well spacing for these wells?

A. In this particular area?

Q. Yes. Yeah.

A. Yeah. Yeah. We look at pretty much, like, what, you know, the numbers are saying, and that's how we come up. And frac models are basically there to do that. Like, you know, your frac designs would actually help in -- like, you know, with those things.

Q. Okay. But you haven't presented any information that would confirm that as to the Lower Wolfcamp anyway, correct?

A. Yeah.

Q. And just for my own benefit, when there are low permeability rates, there is kind of more of a C and D Formation; is that correct?

A. It's hard for fluid to move through. I mean, that's the reason we are all fracking here, just to get over that.

Q. Okay.

A. So the fracking, most of the time, takes care of all these issues that -- about these permeability issues.

Q. Okay. But when there is higher -- higher permeability, then there is more flow, right?

A. Yes.

Q. So the fluids can flow into the well from further away, correct?

A. Yes.

Q. Is that your understanding?

A. Yes.

Q. So understanding those permeability differences can be important when you're spacing your wells, right?

A. Yes.

Q. Okay. I want to look back at Exhibit 1 for BTA. Maybe you can help explain to me why all of BTA's wells are spaced essentially the same regardless what

formation they are in.

A. Well, when it comes to Lower Wolfcamp, BTA has drilled three Lower Wolfcamp wells, and we have a history of producing in the Lower Wolfcamp in this trend.

Q. And I apologize, but you have a history in which you've drilled three Lower Wolfcamp wells?

A. Yeah, three Lower Wolfcamp wells in the area a little farther west, so BTA could probably use that information.

Q. Where is that area?

A. It's called Herron Ranch.

Q. And where is that located?

A. It's east -- east of Ogden.

Q. East of the Ogden in Eddy County still?

A. Yeah.

Q. And did it drill three Lower Wolfcamp wells within the same half section?

A. No, not three.

Q. You said that BTA had a drilled three Lower Wolfcamp wells.

A. I'm talking the number of wells.

Q. Oh, total?

A. Yeah, total number of wells.

Q. For New Mexico?

A. Yeah.

Q. Okay. I think that concludes my questions.

EXAMINER JONES: Mr. Brooks?

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. I have very little. On Exhibit 33, that covers a pretty large area. Where's the state line on that exhibit?

A. The state line would be basically like along the right, where the second well in the cross section is.

Q. Okay. Yeah. That's what I thought.

Now, where is the subject area of this township and range? It's too small for me to read on this copy.

A. Yeah. So the -- it's right next to the first well in the cross section.

Q. Okay. So is the first well in the cross section -- is that east or west?

A. East of the cross section.

Q. Okay. So it's east of the cross section.

The cross section is the next township to the west -- I mean the subject area. Where is the subject area?

A. Yeah. The subject area is like the light

yellow in color kind of like in the southeastern -- southeastern quadrant of the well location symbol.

Q. Okay. If you're looking at the well location symbol, it's --

A. Right above the 7. So you see the 3001534572? It's right above the 7.

Q. That's the subject area?

A. Yeah, that's the subject area.

MR. FELDEWERT: Mr. Brooks? David --

EXAMINER BROOKS: Yes.

MR. FELDEWERT: -- I think he testified -- if you look at Exhibit 31 --

EXAMINER BROOKS: Oh, Exhibit 31.

MR. FELDEWERT: If you look at Exhibit 31, I believe the witness testified where it's located on Exhibit 31.

THE WITNESS: Yes.

EXAMINER BROOKS: Yeah, he did. What I was concerned with was getting it located on Exhibit 33.

MR. FELDEWERT: I gotcha.

Q. (BY EXAMINER BROOKS) So on Exhibit 33, Sections 29 and 32 of 23 South, 28 East would be in the section -- in the township -- would that be in the township immediately west of Number 34572, or would they be in the same township as Number 34572?

A. So that well is in Section 30, and the acreage is Section 29 right next to it on the eastern side.

Q. It's the same township?

A. Yeah, same township.

MR. FELDEWERT: It's the adjacent section, David.

EXAMINER BROOKS: Okay. I'm okay with that now.

Q. (BY EXAMINER BROOKS) Okay. Also, on Exhibit 34, the area that you testified about represents the area you testified represents the frac dispersal area?

A. Uh-huh.

Q. This is -- the vertical axis on here is the depth shown in the far left log column; is that right?

A. Yes, sir. Yes, sir.

Q. And the horizontal distance is -- the horizontal dimension is what?

A. You mean the distance between these wells?

Q. No, the -- the horizontal -- what is being measured on the horizontal axis?

A. Between the wells or on the frac model?

Q. In the second-to-the-right column on the model -- on the -- yeah, on the graph that's the last page of Exhibit -- well, it's a blowup on the last page.

A. Yeah. The second one is showing the porosity.

Q. Okay. Well, I'm talking second from the right.

A. Oh, second from the right. Yes. The scale -- like, the scale, as you can see, the zero -- the color scale is from zero to 100.

Q. I see it's marked, but what does that represent?

A. So that represents the average conductivity of the proppant.

Q. Okay. Okay. Now, why is there that little box in the upper, left-hand of the -- it's not colored in. What does that mean?

A. In the same one, from zero to 1,000?

Q. Yes.

A. That's basically the frac length.

Q. Okay. So frac length is what is being measured along the -- along the horizontal axis?

A. Yes, sir.

Q. And the depth is on the vertical axis?

A. Yes, sir.

Q. Okay. Then that goes -- that gets back to my question: Why is there that -- the pink comes out from the lands up at the top right around the 10,500 foot, and then there is a big, white area, and then the pink resumes a little bit further on, and there is another --

A. Yeah. So like what's happening here is, like,

you know, as the fracture width changes, the water can go in but not the proppant.

Q. Now, you explained -- actually, I don't think I have to understand this. I think I'm wasting time here as the person who does not understand -- I understand the concept you're mentioning, but it doesn't answer my question, but my question may be a dumb one. I'm going to pass on it.

EXAMINER JONES: No, it's not dumb.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. I guess I'll just start by what I remember here. So you're not planning on drilling the 2nd Bone Spring Sand?

A. 2nd Bone Spring? Yes, we will in the future.

Q. In the future?

A. Because once we drill the Wolfcamp, we have the rights.

Q. Okay. The development comparison that's on, I think, three or two, one of them, the density -- the well density is quite a bit different between what is shown by BTA versus Marathon. Is that -- is that significant? Do you have anything to say about that and exactly what targets you're going for here versus what they're going for?

A. Yeah. For us, our well spacing has been based on what's happening all around us and based on the production data we have seen in this area -- so like, for example, the cross section that is -- and a lot of wells have been drilled in this area in the Upper Wolfcamp and the Lower Wolfcamp in this particular area. That's the reason -- that was taken into consideration in this spacing. The history of the production has been taken into consideration. That's the main thing. The history of production has been taken into consideration.

Q. Okay. What exhibit is that?

MR. FELDEWERT: Exhibit 21.

THE WITNESS: Exhibit 21.

Q. (BY EXAMINER JONES) Okay. So Marathon's proposing a well in the Upper Wolfcamp, but you don't have one proposed. Is that -- is that -- that's about 100 feet difference. So is that significant at all?

A. Yeah. It's significant in the sense -- sir, could you rephrase the question?

Q. In the sense that it would influence who should be the operator here. I mean, why should -- in your opinion, should BTA be the operator in this area?

A. I mean, like if you see the production trend in this particular area, we are following the production trend in the area, and we have shown the analysis as to

how the frac model is behaving from what we have here. And I have tied this one all the way to what we have here. But to go for this density and stuff, we haven't seen any geological evidence as to why they should have this. Whereas, we have in evidence as to -- we are showing the frac model as to where the frac is going, and we have a -- of production by all the surrounding operators in the area, and we have demonstrated ourselves by drilling wells in the Lower Wolfcamp. So we have a history of drilling Lower Wolfcamp in this area. And we are showing the data to prove that we are using the science in here.

Q. Okay. Are you drilling in the east half the Lower Wolfcamp?

A. Yes. As of now the well is being drilled, I think as of this morning, or TVD is 5,000 feet.

Q. Are you going to drill a pilot hole anywhere in this area?

A. We are going to drill it, we will log it and get all the suites of logs in this area, so that will help in the analysis.

Q. Will there be stress logs?

A. We are planning to do a good study in this particular area from this particular well. So we are demonstrating that we are using our science to develop

this area rather than just putting the numbers.

Q. So a pilot hole to go down through the Bone Spring, log the whole Wolfcamp, Bone Spring?

A. Not a pilot hole. Whole drilling to the Wolfcamp and Bone Spring log, the whole -- Upper Wolfcamp and the Bone Spring Sand. So we'll have a good idea on what this area is. And, you know, we also have, like, partnerships with other people where they are having logs. So we are using all the data to come up with this model as to the number of wells that are being drilled.

Q. Okay. So just because you don't have some wells spotted here doesn't mean you don't have any plans for the future?

A. Yeah. Basically, we will look at the data. If anybody provides us the evidence -- that's what we're looking for. We're searching for evidence. If there is evidence, let's see it. For us, what we have to do here, we will do it.

Q. Okay. Your wells down in Reeves County that you've -- that Schlumberger did the data on, that's about 1,000 feet deeper, right?

A. Yes, sir.

Q. So is that significant?

A. Like, when you think about the depletion model

when deposited, they're pretty much flat, and depending on the logs, pretty much continuous. And if you do not hit any high pressures before you get to do -- constant rise in pressure until you get to somewhere in the Wolfcamp. So we believe, like, in the lack of the options in the data -- for example, if we logged in logged this well welcomed it could be different based on analysis no hard pressures hypotheticals in this area. Thick compared these logs in here. So it's a gradual change, but at the time of the depletion pretty much the same barriers deposited at the same time, so probably behave the same way. So that's the reason. That's the reason I included this well. And we have production with the proven Wolfcamp in this. We will know it is holding true in this area.

Q. So you're basically not expecting the higher pressures -- the Wolfcamp higher pressures in this area until you get down to the lower part of the Wolfcamp?

A. And we did not, because we already drilled the #2H. We already drilled the #2H into the Sand.

Q. What mud weight did you use?

A. Pardon me?

Q. What mud weight did you use?

A. I don't exactly remember the numbers. I don't have hard numbers.

Q. You didn't have to change mud weights or anything like that?

A. Not much difference, nothing to explain drilling there. So nothing -- yeah.

Q. Okay. This perm barrier is related to your unconformity between the Wolfcamp and the Bone Spring geologically? Is that some sort of -- you don't see anhydrites in there, do you?

A. No, I didn't see any anhydrites. That is where the pressure is changing a little bit, if at all, and it's a carbonate. It's mainly --

Q. Oh, it's carbonate?

A. It's carbonate. The extent of the carbonate -- it's the Wolfcamp, so we know even if it changes, all the changes are not significant until you get to the Middle Wolfcamp.

Q. Okay. Thanks for that.

And you're drilling the east half right now. When the Purple Sage was proposed and then also before that, when Cimarex was drilling, it showed a stress direction I think north-southeast. Fracs go like that along the well. Is that -- this data that you're showing here, did it -- how many orientation or stress directions?

A. No. This doesn't have any orientation of

stress direction in this area. Yeah.

Q. So the stresses might have an orientation, but the two horizontal stresses are pretty close to equal; is that correct?

A. It's, you know, based on generally published articles, trending northwest to southeast. If you drill lay-down or stand-up, you are getting that.

Q. Pretty good wells anyway?

A. Yeah. Yeah.

Q. But stand-up is -- generally most of the wells you see nowadays are stand-up wells?

A. Because of the structure, if you're going down, you have to geosteer them continuously. Whereas, if you strike -- depending on the strike, you don't need to steer them.

Q. You had a spectral gamma ray?

A. Yes. Yes.

Q. Do you run that routinely if you run logs in this area?

A. For every -- try to get that -- develop that well without any waste.

Q. Is that a company decision, to drill a pilot hole in every section?

A. Not a pilot hole but collecting logs in the deepest well, locate the logs, so analyze the whole

thing. And we're already in the process in this area.

Q. Okay. Your application says "330 setbacks." Are you going to -- this is Bone Spring. So are you going to expect to change those?

A. About those displacement and things, I think the land could answer those questions better than me.

Q. Your regulatory person would probably be the one for that.

Okay. And just for my benefit, do you have a frac model on your desk that you play with, or are you using Schlumberger's? This was a tagged well? It was tagged with radioactive sand?

A. This was done by Schlumberger, and we use Schlumberger.

Q. Okay. But your engineers would be the ones who have the frac model on their desk, right? They would be the ones that would do the -- unless you have an in-house Schlumberger or Baker person that takes care of your frac modeling.

A. We don't have an in-house. We basically go to Schlumberger because they have good operators, and they have -- they have a good idea on the whole basin because they do a lot of work for a lot of different companies, and their knowledge base is much more than an in-house person.

Q. Yeah. Yeah.

EXAMINER BROOKS: If Gary were here, he would say, "Here, here."

EXAMINER JONES: He would. He would.

Q. (BY EXAMINER JONES) I think that's about it. The depth -- the well you show here, you just show these tracts off to the right as being on depth, but you're pretty confident they are on depth with the new well that is fracked?

A. Yes. Yes. Yes.

Q. Okay.

A. Yeah. You can correlate those green colors in the second column in the frac model. They kind of correspond to where the sands are.

Q. Okay. Yeah. Your Exhibit 34 is dramatically showing -- is it correct to say it's dramatically showing -- the 3rd Bone Spring Sand has got high stress barriers above and below it?

A. Yes, sir.

Q. Okay. But your Wolfcamp is a little more complicated, it looks like.

A. Yeah.

Q. It looks like it's a different rock entirely down there. It looks like -- so it's not really a sand. Would you describe it as a sand?

A. In the Lower Wolfcamp --

Q. This is Upper Wolfcamp.

A. Yeah. It's going down the Upper Wolfcamp Shale.

Q. Like shaley sand?

A. Yeah. It's more like a shale.

Q. Okay. That's all I've got.

EXAMINER JONES: Redirect?

MS. BRADFUTE: Mike, I have one point-of-clarification question.

RECROSS EXAMINATION

BY MS. BRADFUTE:

Q. Mr. Eti, in the east half, which well is the Wolfcamp D well that you guys have drilled?

A. East half? 1H.

Q. The One Hitch or One Hedge?

A. 1H.

Q. And I guess I misunderstood your testimony. So has BTA drilled a deep Wolfcamp well in the east half of Section 29 and the northeast quarter of Section 34, if you look at Exhibit 28?

A. Yes.

Q. Do you know which well it is?

A. Yeah. 1H is the --

Q. The 1H?

A. Yeah.

Q. Sorry. I apologize.

Do you know what the TVD for that well was? I tried to pull up the well permit to confirm, see if I could answer the question, but --

A. TVD is maybe 10,500. I don't exactly remember from the top of my head.

Q. And this is just looking at the production casing. It says, "Setting depth at 9,800."

A. That would be a casing, but that's not the TVD, not lateral length point.

Q. I can't find the TVD listed.

Okay. That clarifies. Thank you.

A. Okay. Thank you.

MR. FELDEWERT: I have no questions.

EXAMINER JONES: Okay. Thank you.

(Recess, 11:36 a.m. to 12:32 p.m.)

EXAMINER JONES: Let's go back on the record and continue with BTA's case.

MR. FELDEWERT: Call our next witness.

EXAMINER JONES: Yes.

BRITTON McQUIEN,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Would you please state your name, identify by whom you're employed and in what capacity?

A. Britton McQuien. I work for BTA Oil Producers, LLC as a reservoir engineer.

Q. How long have you been with BTA as a reservoir engineer, Mr. McQuien?

A. Nearly 14 years now.

Q. And have your responsibilities included the Delaware Basin of New Mexico and Texas?

A. Yes.

Q. Did you testify in April -- at the April hearing as an expert in petroleum engineering and petroleum reservoirs?

A. Yes.

Q. Are you familiar with the applications filed in these consolidated cases?

A. Yes.

Q. Including the competing well proposals and amended pooling applications filed by Marathon?

A. Yes.

MR. FELDEWERT: I would retender Mr. McQuien as an expert witness in petroleum engineering and petroleum reservoirs.

MR. BRUCE: No objection.

MS. BRADFUTE: No objection.

EXAMINER JONES: He's so qualified.

Q. (BY MR. FELDEWERT) Mr. McQuien, if you look at Exhibit 21 --

A. Yes, sir.

Q. -- did you supervise the creation of this very helpful schematic?

A. Yes.

Q. And does it accurately reflect the location and target zones for the wells that are depicted?

A. Yes.

Q. And is it your understanding that based on Marathon's exhibits that you have properly circled the four wells that they identified as their phase one drilling to their plan?

A. Yes.

Q. There's been questions about this. Okay? So would you explain for Marathon and the Examiners the drilling plan for the -- and we're just talking about the initial wells that form the spacing unit, right?

A. Yes, sir.

Q. Would you talk about the drilling plan for those initial wells?

A. So for the Wolfcamp, the initial wells will be

the Ogden, on the cross-section view denoted as the 5H and the 6H. They will be targeting the Wolfcamp Sand. They will be drilled -- the surface location or pad will be just barely in Unit F of Section 32. The wells will be laterally drilled and landed at -- the 6H will be 660 feet from the west line of the unit, and then the 5H will be 1,980 feet from the west line of the unit. The wells will be drilled approximately a mile and a half from south to north, and we will try to get the setbacks to where we can have the take points exposed to the maximum amount of reservoir in the wells.

Q. Okay. Now, these would be the wells that would initially form the Wolfcamp spacing unit?

A. That's correct.

Q. In which we've got the federal permits?

A. That's correct.

Q. Does the company then -- what's the next -- after they get that Wolfcamp spacing unit formed, what would be the next drilling?

A. So at this point, there are -- some of the timing issues come into play here. We have the 7H -- the 7H and the 8H are -- needed to earn some deep rights due to the Pugh clauses written into the lease. Those will be the next wells drilled in order to earn those deep rights. And they will be drilled from a pad

location located over in Unit E, I believe, Section 32, drilled south-north with 1,320 feet spaced in between them.

Q. Okay. So the Wolfcamp wells are going to be drilled south to north?

A. Yes.

Q. Okay. And you have your pad, the 5H and 6H?

A. Yes. We do have a pad built for the 5H and 6H.

Q. And you've got your permits -- federal permits for these wells?

A. That's correct.

Q. And then once you form that spacing unit and you save the deep rights, what's the next step?

EXAMINER BROOKS: Okay. Let me interrupt you --

MR. FELDEWERT: Sure.

EXAMINER BROOKS: -- because I don't want anybody to be mistaken when they read the transcript.

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. You said the Wolfcamp wells would be drilled from south to north, and that's true of the 7 and 8H. But it looks like -- no, wait. Yeah. Oh, I'm sorry. I'm wrong. I'm the one that's wrong. No. I'm confused here. It looks like we have a surface location up in

the north end of 30. That's for the 9 and 10, right?

A. Yes, sir.

Q. Which are Bone Spring?

A. Right.

EXAMINER BROOKS: So I'm wrong.

Mr. Feldewert, you're right, not that that's an unusual situation.

(Laughter.)

MR. FELDEWERT: I'm glad we got that on the record.

MR. BRUCE: A matter of fact for future cases.

(Laughter.)

CONTINUED DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. So let me get back to Mr. Brooks' question. The 9H and the 10H, where are you planning on drilling that?

A. Those will be in the northwest corner of this 480 potential Wolfcamp unit now. These will be 240-acre Bone Spring units drilled from a pad location. The 9H, 330 feet off the west line, and then the 10H will be 1,320 feet east of that well to sit at 1,650 -- well, actually, it will be 1,330 feet off its unit line. We will construct the wells to best take advantage of

Mewbourne's oil wells where we've got 100-foot offsets for take points -- first and last take points.

Q. Okay. Now, are there -- now, with respect to the 5H and the 6H, do you intend to simultaneously drill and then complete those wells?

A. Yes.

Q. And when you get to the spacing unit for the wells of the 9H and the 10H, will you -- since they're from the same pad, do you intend to drill and simultaneously complete those?

A. Yes.

Q. Okay. Why do you do that?

A. There's a cost -- cost savings and just an overall efficiency to doing the pad drilling and zipper-fracking.

Q. And you're aware, under the standard pooling order, it usually provides 120 days between the commencement of drilling and the time in which you would have to complete at least one of the wells, right?

A. Yes.

Q. Okay. I think at the last hearing, you suggested -- asked the Division to give you 180 days to do that?

A. Yes.

Q. Okay. Do you think that would work as well for

the Bone Spring wells?

A. Yes.

Q. Okay. You may not need 180 days?

A. No.

Q. It's just out of an abundance of caution?

A. That's correct.

Q. And that would be the period of time, after the commencement of drilling, until you have to complete at least one of the wells to form the spacing unit?

A. From the commencement of drilling --

Q. To the completion to form the spacing unit.

A. Okay.

Q. All right. Now, you testified in April why mile-and-a-half laterals are more effective than one-mile laterals in this area. Do you remember that?

A. Yes.

Q. And does that testimony apply equally for the Bone Spring Formation?

A. Yes.

Q. So I think we can skip that now because based on the amended application, Marathon agrees with your analysis, right?

A. Apparently so.

Q. Okay. What has been the primary zone of development to date in the area surrounding these

proposed spacing units?

A. So the primary zone has been the Lower Wolfcamp Shale and the Wolfcamp Sand intervals. We've seen a lot of development in this area.

Q. Okay. Let's go to what's been marked as BTA Exhibit 36. And this is comprised of three pages, correct --

A. Yes.

Q. -- pull-out pages?

And each one of these pages deals with a different zone?

A. That is correct.

Q. All right. And it looks like your first page addresses the Lower Wolfcamp horizontals?

A. That's correct.

Q. All right. The wells that you show on here, what's the status of those wells? What have you included?

A. So the wells shown on here are -- have been completed. There is actually -- on the legend, you can see the status of this, open-circle permits. There is a waiting-on-completion symbol, and then predominantly all of these, since they're in the Purple Sage field, are gas wells and actually showing one pilot hole up in 15.

Q. That's that red circle?

A. Yes.

Q. Okay. Go ahead.

A. And the colors reference different operators that drilled all of these wells.

Q. Okay. So who -- who's been the primary operators out there in this area?

A. Matador and Mewbourne have drilled the lion's share.

Q. And if we go, then, to the second page of this exhibit, is this a similar exhibit for the Wolfcamp -- Upper Wolfcamp Sand horizontal?

A. Yes.

Q. It's just called the Upper Wolfcamp Sand?

A. Yes, the Wolfcamp Sand, Upper Wolfcamp Sand.

Q. And similarly do you show all the wells that have been drilled?

A. Yes.

Q. And by the same token, you show the colors representing different operators?

A. That's correct.

Q. And then the third page, does this reflect the development of the 3rd Bone Spring in this area?

A. Yes.

Q. Hasn't been a whole lot, right?

A. No.

Q. I see that there's only been two operators so far that have drilled in the 3rd Bone Spring?

A. Yes.

Q. And they are whom?

A. There are a couple of wells with green attributes. Those were drilled by OXY. And then several wells in kind of a purple color, those on Marathon's wells. You know, none of them are showing to be completed wells at this point.

Q. They have not?

A. Have not reported a completion.

Q. Okay. All right. Now, last time we were here, Marathon seemed to indicate that you need to simultaneously complete the Lower Bone Spring with the Upper Wolfcamp?

A. Yes.

Q. Has any operator in this area seen the need to codevelop the Lower Bone Spring with the Upper Wolfcamp?

A. Well, looking at the second and third pages of this exhibit, so far the only completed 3rd Bone Spring wells are in Sections 8 and 17 by OXY. There are no Wolfcamp Sand wells in those sections. Marathon, in the sections adjacent to us, has done it, but like I said, there is -- no completions results have been reported yet.

Q. All right. So let's go back a little bit here. If I take a look at the OXY wells on the last page in green, that would be the third -- the lower third -- the Lower Bone Spring, right, 3rd Bone Spring?

A. Yes, 3rd Bone Spring.

Q. If you look on the previous page for the Wolfcamp Sand, there are no wells drilled by OXY, right?

A. No.

Q. In this -- in that area where we see the 3rd Bone Spring?

EXAMINER BROOKS: Was the "no" responding to "there are no wells," or was it responding to the "correct"? I need to get clear what yes and no means.

MR. FELDEWERT: Let me start over. That would be better.

EXAMINER BROOKS: Okay.

Q. (BY MR. FELDEWERT) Last page, green dots, that's OXY?

A. Yes.

Q. 3rd Bone Spring Sand?

A. Yes.

Q. Okay. If I look at the second page and I go to that same area --

A. Yes.

Q. -- we don't see any OXY ones?

A. Yes. Correct.

Q. So OXY didn't see a need to simultaneously complete the 3rd Bone Spring with the Upper Wolfcamp Sand?

A. That is correct.

Q. And as -- and when I look at all the operators here on the second-to-the-last page of this exhibit, there's a number of them, right?

A. Yes.

Q. Have any of these operators saw a need to simultaneously complete the Lower Bone Spring with the Upper Wolfcamp?

A. No, none of them.

Q. Okay. And if we focus in at the acreage surrounding our proposed spacing unit and we go to the south half of 32 --

A. Yes.

Q. -- I see a blue dot there.

A. Yes.

Q. What does that represent?

A. That blue dot is a well that is operated by Mewbourne targeting the Wolfcamp Sand interval. I'll say BTA has a working interest in this well. The well has been completed, flowing back, post-frac at this point.

Q. Okay. And you're involved in that development with Mewbourne?

A. Yes.

Q. Did Mewbourne see any reason to codevelop the 3rd Bone Spring Sand with the Upper Wolfcamp?

A. No.

Q. Okay. If I go over to Section 31 right next door, there's another operator there. Who is that?

A. That's Matador, MRC as they've been referred to previously in this hearing.

Q. And it shows that they have drilled two Wolfcamp Sand wells?

A. That's correct.

Q. Have they seen any reason to codevelop with the 3rd Bone Spring Sand in this area?

A. No.

Q. In your opinion as a reservoir engineer, do you see any evidence to indicate that the Lower Bone Spring and the Upper Wolfcamp comprise the same pool or the same source of supply in this area of Eddy County?

A. No.

Q. Do you agree that the Division properly treats these zones as separate pools in Eddy County?

A. I agree.

Q. And do you see sufficient evidence to suggest

that the Division should require operators to develop these new zones simultaneously?

A. Would you rephrase that question?

Q. Do you see sufficient evidence to suggest that the Division should require operators to develop these separate zones simultaneously?

A. No.

Q. And do you believe that waste will occur if BTA develops the Upper Wolfcamp in the Lower Bone Spring zones independently as separate sources of supply?

A. No.

Q. Is the spacing for BTA's initial development of the Bone Spring and the Wolfcamp Formations consistent with what other operators have done in this area?

A. For the Wolfcamp, it is consistent with what other operators have done in the area.

Q. And the Bone Spring -- 3rd Bone Spring, we don't have much to go on, right?

A. Exactly.

Q. And what has generally been that spacing by other parties?

A. Four wells per section.

Q. Okay. And if I go to Exhibit 21, which is this nice handy map that somebody in your office put together, does BTA's proposed initial wells allow for

infill drilling that's later deemed to be necessary?

A. Yes. There is potential to drill a third well in between the 5H and 6H.

Q. So I'm looking at Exhibit 21 on the left-hand side --

A. Yes.

Q. -- right?

A. That's correct.

Q. And what about the -- the 3rd Bone Spring?

A. Same. We do have the opportunity to drill into a well if deemed necessary.

Q. Okay. All right. Now, at this point, the company doesn't see a need for that, right?

A. That's correct.

Q. Has Matador recently experimented with increasing their density or increased spacing in the Upper Wolfcamp in this area?

A. Yes.

Q. If I go to probably Exhibit 37, is that a good exhibit to go to?

A. I think so.

Q. Exhibit 37, is that a close-up of the acreage that we were just looking at in the prior exhibit?

A. Yes.

Q. Okay. And is this -- what wells are shown on

here?

A. So the wells shown on here -- of course the unit is -- has a red outline and yellow crosshatch. The wells shown on here are the Wolfcamp Sand completions that are in this vicinity.

Q. Okay. Now, just to the west of the acreage at issue here, I see Section 25?

A. Yes.

Q. Is that operated by Matador?

A. Yes.

Q. And is that an area where it appears that they have experimented with some tighter spacing?

A. Yes.

Q. And just to the north -- and that's with stand-up wells?

A. Yes.

Q. And just to the north of that, Section 24, who operates that acreage?

A. I believe Matador does as well.

Q. And is that acreage where they've also experimented there with tighter spacing?

A. Yes.

Q. On a lay-down manner?

A. Yes.

Q. Have you examined the results of that tighter

spacing, for example, as compared to Section 13?

A. Yes.

Q. Okay. And what have you found?

A. These tighter spacings in 25, you know, it's just the two-well development, but the spacing is consistent with an eight-well-per-section development. Section 24, the spacing is consistent with a six-well-per-section development.

Q. And how is that shown based on the results as compared to four wells per section?

A. So they have underperformed pretty significantly in this area.

Q. Okay. Let's go to the second page of this exhibit.

EXAMINER BROOKS: Both stand-up and lay-down?

THE WITNESS: Yes.

Q. (BY MR. FELDEWERT) If I go to the second page of this exhibit, is this a graphic of what you found?

A. Yes.

Q. Okay. Why don't you explain to us the colors and what this shows?

A. Okay? So all the wells on the -- in the previous map -- or the previous part of this exhibit plotted the cumulative production. I believe I created

this exhibit in June, so maybe through April is when the production was current through. And so the green wells are wells that were either drilled by themselves -- or stand-alones or drilled on that four-well-per-section spacing. And you can see the name of the wells there. There is typically a number before the well number, which that -- that number in the legend represents the section that that well is in. So if you want to compare back to the map to see which wells are where, the section numbers are typically involved.

But the green wells are all wells drilled, either stand-alones or three-well-per-section spacing. There is a heavy green line that is the average of those wells. And then a couple of blue wells in Section 24, those are the wells drilled at a six-well-per-section spacing, with the heavy blue line being the average of those two. And then there is the pink, couple wells with a red line being the average of those, and the Warren 25s, and those are eight-well-per-section spacing.

You can see -- I mean, I have ten months of data on those wells. You know, looks like they were just under 70,000 barrels' cum, on average, for those two. You compare that to the stand-alone wells which are in excess of 140,000 at month ten.

Q. I'm going to interrupt you. On those Warren 25 wells in orange --

A. Yes, sir.

Q. -- if I look at the timeline there --

A. Uh-huh.

Q. -- does that indicate how they were drilled and completed?

A. They were completed, looks like, concurrent completion or simultaneous completion.

Q. Simultaneous completion. Okay.

A. Yes.

Q. And then the blue line would indicate that there was a lag time between the drilling of the first well and the second well?

A. Yes.

Q. Okay. And yet when you do it simultaneously or you had a lag time, it's showing the same lack of performance?

A. That's correct.

Q. And what do you observe about the curves that you see here, if you extend those curves out?

A. Oh. Especially you can see in the blue, there appears to be flattening, so the rates -- those have gotten down to a pretty low rate at the 20-month period and continue to flatten. The slope of the line on the

green wells -- the stand-alone wells are four-per-section wells. The slope of that line is still higher. So the rates we're seeing at that point in time are still quite a bit better than what we're seeing in these other wells. So it's not like these more densely spaced wells are going to catch up with more time. They're getting farther and farther away with more time.

Q. Now, when we look at the previous page, these are wells within, what, a mile, mile and a half of the acreage at issue?

A. Yeah.

Q. Same correlative zone?

A. Yes.

Q. And were you here in April when we asked Marathon's witnesses if they had examined these results?

A. Yes.

Q. And what was their response?

A. The engineer said that he had looked at all the wells that were completed since 2010. The well in Section 25 did not show up in his analysis. And you pressed him on that, and his response was it must have been completed prior to 2010.

Q. When were they completed?

A. May of 2017.

Q. So these are recent?

A. Yes.

Q. Okay. All right. In your opinion as the -- as a reservoir engineer, do these results support more dense development than the four-well-per-section pattern used by long-time operators in this area?

A. No.

Q. Are there other studies out there done by other people that demonstrate the same thing?

A. Yes.

Q. If I turn to what's been marked as BTA Exhibit 38 --

A. Yes.

Q. -- what's this?

A. I believe this was a presentation made by some engineers with Shell at the Unconventional Resources Technology Conference in 2016.

Q. And what areas -- what formations did they examine?

A. You know, you can see in the summary it says, "Optimum well spacing is one of the main development decisions in the" Wolfcamp -- or the "Delaware Basin Wolfcamp shale assets."

Q. That's what we're dealing with here, right?

A. Yes, sir.

Q. And have you looked at their conclusions?

A. Yes.

Q. And if I go to the next page of this exhibit, what conclusions do you see that are important to you in trying to ascertain how your company should proceed with developing acreage where it owns 70 percent?

A. Well, you know, bullet point number two, "Decreased productivity at eight-wells-per-section spacing relative to four wells per section." And then they confirm that they were seeing interference with some microseismic observations, so the production and the microseismic said that should be the case.

Q. Interference of four wells per section?

A. That was bullet two.

Bullet three is -- they were seeing -- they had some surface- and bottom-hole pressure data, and even at four wells per section, they were seeing some interference between those. So it's going -- you know, if you go any denser than that -- at four wells per section, the wells are already talking to each other, was their conclusion.

Q. Okay. So when you sit here and you look at the results of the tighter spacing in the wells drilled by Marathon -- or MRC Permian on their acreage --

A. Yes.

Q. -- and you look at studies that are done by

engineers at Shell --

A. Yes.

Q. -- and when you look at what other active operators are doing in this area, do you believe that the Division should award operatorship of your acreage to Marathon so it can experiment with tighter density and different spacing?

A. No.

Q. And isn't it true, Mr. McQuien, that your company owns 70 percent of this acreage?

A. Yes.

Q. Which means you're footing the bill for 70 percent of the cost, right?

A. Yes.

Q. Okay. And I don't know about you, but if you own 70 percent of something, you kind of want to have control of it when you're paying the bill, right?

A. Yes.

Q. Does Marathon have other acreage on which they can conduct their experiments on tighter spacing or simultaneous development?

A. Yes.

Q. Including acreage nearby?

A. Yes.

Q. Okay. We've seen maps where they've got

acreage to the west of you, correct?

A. They've got acreage all over.

Q. So they've got plenty of areas where they're going to foot the bill, where they can experiment, right?

A. Yes.

Q. If I go back to Exhibit 21, this comparison map -- okay?

A. Okay.

Q. Now, what we're looking at here is the initial development to form the spacing units, correct?

A. Correct.

Q. Okay. And what people do down the road will be influenced by what happens around them and what they see with that initial development?

A. Correct.

Q. Now, when I look at the wells that are -- have been proposed for the initial development of the spacing unit, correct me if I'm wrong, BTA is going to use the 9H and the 10H for the Bone Spring?

A. Yes.

Q. At that spacing and at those depths?

A. Yes.

Q. You're going to use the 6H and the 5H to form the Wolfcamp spacing unit at that spacing and at that

depth?

A. Yes.

Q. And then if there are infill wells or as independent spacing units under the horizontal well rules, you're going to drill the 7H and the 8H at those depths, at that spacing to at least hold the deep rights?

A. Correct.

Q. When we go over to the right side and we look at the initial wells they have proposed in their spacing unit --

A. Right.

Q. -- we've circled them, right?

A. Yes.

Q. It's the 15H?

A. Uh-huh.

Q. The 12H?

A. Uh-huh.

Q. The 17H and the 16H?

A. (Indicating.)

Q. Do you see any major differences between what BTA has proposed as the initial development wells and what Marathon has proposed as their first phase of wells?

A. We're drilling more.

Q. Okay. And does the spacing of BTA's initial development wells follow what other operators are using to efficiently develop their acreage in this part of Eddy County?

A. Yes.

Q. And in your opinion, is the granting of BTA's application for pooling here, is that going to cause waste?

A. No.

Q. And in your opinion, is the granting of BTA's application in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A. Yes.

Q. Particularly for acreage you own 70 percent of?

A. Yes.

Q. Were BTA Exhibits 36 through 38 prepared by you or compiled under your supervision?

A. Yes.

MR. FELDEWERT: I would move the admission into evidence of BTA Exhibits 36, 37 and 38.

MR. BRUCE: No objection.

MS. BRADFUTE: No objection.

MR. FELDEWERT: And that concludes my examination of this witness.

EXAMINER JONES: Exhibits 36, 37 and 38 are admitted.

(BTA Oil Producers, LLC Exhibit Numbers 36 through 38 are offered and admitted into evidence.)

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Mr. McQuien, I don't know if you know the Secretary of Energy, Minerals and Natural Resources Department, but his last name is McQueen.

A. I was not aware of that.

Q. So you're not related?

A. Not to my knowledge. I have an irregular spelling, too.

Q. I was just going to say shucks.

(Laughter.)

Q. Let's turn to the first page of Exhibit 36 -- second page of Exhibit 36. Mr. Feldewert asked you -- going over to 23-27, where Matador drilled closely spaced wells.

A. Right.

Q. And they were looking for data, don't you think, to see the correct spacing?

A. I suspect this was a pilot. I don't know. I assume they're trying to drill wells that make money.

Q. Yeah. Don't you expect that of every prudent operator?

A. That's what we try to do. I'm not going to --

Q. It's to make money, plus investors and royalty -- overriding royalty owners expect that. So they've already done some of the science out here that you can rely on?

A. Yes.

Q. And as you said, in looking at this area, Matador and Mewbourne have been a couple of really active companies out here going back a number of years?

A. That's correct.

Q. And do you think they're prudent operators?

A. I do.

Q. And so when you turn to your next -- comparing page 2 of Exhibit 35 with page 3, whether you are looking at any of these townships, Mewbourne and Matador saw no problem with drilling the Wolfcamp between -- before drilling any Bone Spring wells whatsoever?

A. Yes.

Q. They apparently see no issue with that?

A. That's correct.

Q. And even in 24 South, 28 East, Marathon saw no problem with that in 24-28?

A. Matter of fact, yeah, they have drilled some --

Q. They've drilled -- they've drilled --

A. Some Wolfcamp.

Q. -- some Wolfcamp Sand wells --

A. Right.

Q. -- without drilling next door to their next-door neighbors in the Bone Spring?

A. That's correct.

Q. And I think in this -- when you're looking at 23 South, 28 East, 24 South, 28 East, those are about as busy as you get out here in the Wolfcamp in southeast New Mexico?

A. It's pretty hot right here.

Q. And -- and I call it Matador. The interest owners usually are MRC, but they might have been responsible for the first really huge well in this area?

A. They were very early on --

Q. Very early on.

A. -- in this play.

Q. So they spent a lot of time looking at it?

A. Yes.

Q. And kind of following up on what Mr. Feldewert asked you, you have to go out here and drill the wells to find out what's going on before you can really just go out and propose eight wells per section or even six wells per section?

A. Right.

Q. Then when you look at Exhibit 37, this really is the summary that proves your point, doesn't it?

A. This is what --

Q. You'd have to have more than one or two wells per half section --

A. Yes.

Q. -- or per section, but can't overdo it?

A. Yes. And I think there's been tests for several different scenarios here that are pretty clear.

Q. And when you look at the green wells, my only comment is if you go from the Jim Town Lontos to the Loving Townsite wells, I represented Matador and Kaiser-Francis in this area, and so you're giving validation to my existence here.

(Laughter.)

EXAMINER JONES: I knew he was leading towards something.

EXAMINER BROOKS: Well, I was going to say I had forgotten when you represented -- but I think it's somebody on BTA's side.

(Laughter.)

MR. BRUCE: That's all I have.

Thank you, Mr. McQuien.

EXAMINER JONES: Ms. Bradfute.

CROSS-EXAMINATION

BY MS. BRADFUTE:

Q. Good afternoon.

A. Good afternoon.

Q. I have some follow-up questions about the drilling plans for the Ogden wells.

A. Okay.

Q. And I just want to make sure that I have the phases of development down correctly, so going back to BTA's Exhibit 21 --

A. We always return there, don't we?

Q. We do. We do. It's a helpful exhibit.

So looking at this exhibit and going through what you just outlined with Mr. Feldewert, the first phase -- the first two wells that will be drilled under BTA's plan are the Ogden 5H and 6H wells, correct?

A. That is correct.

Q. And that is the first phase of development for this stage of BTA's development?

A. That is -- those will be the first two wells we drill.

Q. Okay. And when will those wells be completed?

A. I won't know when they'll be completed until we drill them.

Q. Okay. So after -- you know, I know you don't

have a drill date, but how long after they drill -- after they're drilled before completions operations will begin, approximately, do you estimate?

A. Estimating from other areas, we typically are three to four months after drilling whenever we begin completions.

Q. Okay. So approximately three to four months after they're drilled, you're going to complete the 5H and the 6H wells, correct?

A. That's my guess as to the time.

Q. Okay. Okay. That's the most concrete answer I've been able to get today about the plan.

And then in your second stage of development, you're going to then drill the 7H and the 8H wells, correct?

A. Yes.

Q. Okay. And when will those wells be completed in correlation to when they're drilled? Is it going to be, again, three to four months after they're drilled?

A. That's the most likely time frame that I can give you.

Q. Okay. Okay. And do you have any idea about what sort of gap of time will occur between the drilling of the Upper Wolfcamp and the Lower Wolfcamp wells?

A. Without going back through the drilling

schedule -- there are -- until -- I can't give a time frame for the Lower Wolfcamp until we have a time frame for the Wolfcamp Sand wells because then we have to go back through, look at the continuous development provisions, and see how much time we really have to work with. Then we will fit them into the drilling schedule in order to satisfy all of the -- all of the lease obligations and Pugh clauses.

Q. But as we sit here today, you still have not done that yet?

A. We can't do that until we have a pooling order and our assigned operations can get these on the drilling schedule. We ran into this back in the winter when we put these on our drilling schedule and then ran into the -- the issues, couldn't work anything out with Marathon, and we were scrambling at the last, you know, couple weeks before we were supposed to move the rig out here.

Q. And I understand not knowing the initial well date, but that window, right, it's really important to analyze that window, and you can get an idea of your continuous drilling provision and --

A. Well, you can't because the continuous development -- you know, depending on the lease -- rig release, or is it from completion date, and then

knowing, okay, when does that completion date happen; then we go into continuous development. We have a timeline there.

Q. So do you know the days and the continuous -- in the continuous provisions, do you know how many days are afforded under BTA's leases for that continuous development provision?

A. Not off the top of my head.

Q. Okay. And I asked Ms. Beal the same question. Did anyone go and look at that information before today's hearing?

A. I'm sure someone's looked at it. I -- I don't know.

Q. Okay. So the answer is you don't know.

Have you looked at Marathon's leases, which are subject to the same Pugh clause concerns, to see how long their continuous development provisions allow for?

A. I have not.

Q. You have not. Okay.

That seems like a pretty important deadline to pinpoint.

MR. FELDEWERT: Well, I disagree with that. I object to the form of the question.

EXAMINER BROOKS: Well, like most of the questions that's been asked by the attorneys in this

case, it's a leading question.

Do you want to restate it as a proper question?

MS. BRADFUTE: I'll withdraw it. It was more of a statement than --

EXAMINER BROOKS: Yeah. Well, that's the reason I -- that's the reason I said that, which I generally don't pay any attention to whether a question is leading or not.

Q. (BY MS. BRADFUTE) And just to confirm, the 7H and the 8H wells are going to be drilled as infill wells under the proposed Wolfcamp spacing unit?

A. That's correct.

Q. And then the third stage of the development plan, as I understand it, that was outlined earlier, is drilling the 9H and the 10H wells, correct?

A. Yes.

Q. Okay. So that's the last stage?

A. Yes.

Q. When will the 9H and the 10H wells be drilled in comparison to when you finish the Wolfcamp wells? Is there any correlation there?

A. I'm not understanding what you're --

Q. Okay. So after BTA finishes drilling the Wolfcamp wells --

A. Which Wolfcamp wells?

Q. The 7H and the 8H, as I understand it, the second stage of development.

A. Okay.

Q. After you finish drilling the 7H and the 8H wells, how long will it take BTA to drill the 9H and the 10H wells, the Bone Spring wells?

A. I can't answer that question until we -- we have a federal APD to be able to drill the 9H and the 10H.

Q. Okay. So how long after BTA obtains an approved permit will it take for the company to drill the 9H and the 10H wells?

A. I mean, it could -- that's just too speculative. We could be in there immediately, or, you know, if we have -- it depends on the -- you know, the pooling order and what other factors we have to satisfy.

Q. Okay. So best-case scenario, it sounds like you could be in there immediately after you get your permits; is that correct?

A. We could.

Q. Okay. Worst-case scenario -- in your opinion, what is the worst-case scenario to get those wells drilled?

MR. FELDEWERT: I'm going to object to the

form of the question.

THE WITNESS: I don't know how -- there are so many factors. I can't evaluate that many potential issues.

MR. FELDEWERT: Let me stop you.

I've objected to the form of the question. I don't know what that has to do with the new pooling cases here.

EXAMINER BROOKS: So you're objecting --

MS. BRADFUTE: It has to do with the cases.

EXAMINER BROOKS: -- to the form of the question and to the relevance?

MR. FELDEWERT: Correct.

MS. BRADFUTE: The relevance relates to waste and information that's going to be presented later in Marathon's case.

EXAMINER BROOKS: Okay. Well, I will overrule the objection to the relevance and ask you to restate the question in a way that makes it easier to answer.

Q. (BY MS. BRADFUTE) Based on your experience in performing drilling operations within the state of New Mexico, after a federal permit is approved by the BLM, what is the longest amount of time that it's taken BTA to drill a well?

A. The longest amount of time we've taken -- a federal APD is good for two years, and I believe you can file for an extension of one year.

Q. Uh-huh.

A. We have taken up to three years when we had no obligations or other issues to drill wells where we have an APD. I wouldn't call that a worst-case scenario. That was just --

Q. Yeah. That gives a time range. It could be immediate to three years that those wells could be drilled after a permit's approved, correct?

A. That's correct. That would be the range.

Q. Okay. Now, is there -- is that three- to four-month completion time frame before you drill a well and complete a well an average that BTA sees in its completion operations?

A. I can't -- I have not gone through and analyzed the time frame on our wells, so I couldn't say it's an average.

Q. Okay.

A. That's a rough guess looking -- from reading our daily drilling reports and summarizing them in my head on the spot.

Q. Okay. Fair enough. Fair enough.

And just to confirm, BTA is asking for an

additional 180 days after the wells are drilled to complete them, correct?

A. Yes.

Q. Yeah. So a total of 180 days, not additional, versus the usual 120?

A. Yes.

Q. I wanted to next take a look at your Exhibit 36.

A. Okay.

Q. And these are the maps that you prepared.

A. Okay.

Q. What did you use -- what data did you use to make these maps?

A. So this map was generated from -- I'm going to take just a second here so we can get everyone on the page.

EXAMINER JONES: We're on now.

EXAMINER BROOKS: Go ahead.

THE WITNESS: This was generated with our geologic software. It's called Petra. Petra is populated from his, and then his -- I believe they get all of their data from the State of New Mexico or the OCD and populates, you know, TVDs, surveys, operators and that type of data.

Q. (BY MR. BRADFUTE) Okay. Is it manually entered

when you're preparing the maps and diagrams, or do you have something that automates --

A. We have -- we can -- the program can do some searches based on some specific criteria -- or criterion.

Q. Is it your opinion, based on your study of the area, that there are no mechanical barriers between the 3rd Bone Spring and the Upper Wolfcamp Sand?

A. Would you restate that question?

Q. Yeah. Is it your opinion, based on your study of the area, that there is not a mechanical barrier between the 3rd Bone Spring Sand Formation and the Upper Wolfcamp Formation?

A. That is not my opinion.

Q. That there is not a mechanical barrier -- that there is a mechanical barrier?

A. Yes, that is my opinion.

Q. Thank you.

So your testimony is clearly that there is a mechanical barrier between the 3rd Bone Spring Sand and the Upper Wolfcamp?

A. Yes.

Q. And based on your analysis of the area, you have not seen any impact on production when Upper Wolfcamp wells are drilled when a 3rd Bone Spring well

is drilled?

A. For this study area, there is not an example to point to.

Q. Okay. Have you looked at other areas to see if there is any sort of impact when the 3rd Bone Spring Sand and the Upper Wolfcamp zones aren't codeveloped?

A. I examined other areas.

Q. Okay. And what areas have you looked at?

A. Down over in Lea County and leases through Loving County and Reeves County where we have other acreage positions.

Q. Okay. And did you observe any impacts there?

A. What do you mean by impacts?

Q. Did you observe that the 3rd Bone Spring Sand and Upper Wolfcamp Formations should, in certain instances, be codeveloped together?

A. I can't make a statement to that, because without having a, you know, model along those areas -- I've looked at production data, but to say that that's due to parent-child relationships, I just haven't evaluated it in that light.

Q. Okay. Did you observe a mechanical barrier in these areas, or what you believe to be a mechanical barrier between the 3rd Bone Spring Sand and the Upper Wolfcamp?

A. Yes. Okay. I'm sorry. My mind was thinking Lea County.

Down in the Reeves County area and through Loving County where our frac model came from, you know, the 3rd Bone Spring was -- you know, that was where the start -- or, you know, it really got started back -- even back in 2010, 2011, very active area through there. Many operators are coming back now and drilling lots of Wolfcamp wells underneath -- having some very good performance down there.

Q. And would you agree that sometimes development patterns change over time as operators learn more about the formations they're developing?

A. That's fair.

Q. Have you conducted any studies on infill well performance when infill wells are drilled after an initial well is drilled within -- within this area of New Mexico?

A. I'm sorry. I'm trying to go through and figure out exactly. A study -- let me see if I can rephrase the question.

Q. Sure.

A. A study of the impact of a -- of a parent-child relationship?

Q. Sure.

A. Is that what you're asking me?

Q. That might be easier.

A. Specifically for this area?

Q. Yes.

A. No. I have not done a specific statistical analysis comparing -- or seeing if I can quantify a change in production.

Q. Okay. Okay. I want to look at the spacing patterns. Let's see. You pointed to Matador's -- MRC's spacing patterns in Sections 24 and 25. And I apologize. Is it on the second map?

A. Yeah. So Exhibit 37, page 2 -- or 36. I'm sorry.

Q. 36. Okay.

Do you know how closely the wells are spaced together in Sections 24 and 25?

A. 24 -- yes. I have measured those. They're -- 24 -- depending on where you pick on the lateral, they're between 900 and 1,000 feet apart. And the ones in 25, approximately 600 feet. You know, it changes just where exactly along the lateral you pick it. But I would say they're representative of a six well per section in 24 and an eight well per section in 25.

Q. And are the wells in Section 25 shown in your map drilled into the same subformation like the Wolfcamp

Upper Sand? They're both Upper Sand wells?

A. Yes.

Q. Okay. Are they -- do you know if they're both X-Y wells?

A. Yes. They are definitely X-Y wells. That's the -- how we're cataloging them. We call it the Wolfcamp Sand in this, but that's how we correlate these wells.

Q. And in Section 24, are both of those wells Y wells as well?

A. Yes.

Q. I wanted to turn back to Exhibit 21. I just have, I think, one or two more questions. I wanted to look at the spacing patterns in the Wolfcamp Sand --

A. Okay.

Q. -- that BTA has proposed and that Marathon has proposed.

A. Okay.

Q. When I'm focusing on these charts, I'm looking at the diagram at the bottom of the page that's shaded in different colors: orange, yellow, green, blue, purple, pink.

A. Okay.

Q. And it looks like in between these two diagrams, you have the footages listed or the depths

listed for the formations, correct?

A. Correct.

Q. So when I look at the third depth listed, it's the Wolfcamp Sand, 9,400 feet to 9,500 feet; is that correct?

A. That's correct.

Q. So it looks like BTA has its 6H and its 5H wells planned within that targeted zone; is that correct?

A. That's correct.

Q. And that's two wells, correct?

A. Yes.

Q. And they're spaced, I believe you testified, about 1,320 feet apart?

A. Yes.

Q. So when you look right next to it, you have Marathon's X-Y Sand wells shown, correct?

A. Uh-huh.

Q. And it's the 12H and the 17H wells, right?

A. Yes.

Q. Okay. And the spacing between those two wells appears to be even further apart, right?

A. Yes.

Q. Okay. So Marathon's proposed spacing does not mirror the spacing that we just observed in Sections 24

or 25 that Matador drilled under in those sections, correct?

A. Correct.

Q. So it's not comparing apples to apples or oranges to oranges?

A. This is not an ultra-dense spacing -- or proposal that Marathon has made to us.

Q. Okay. And looking at the other formations that -- that we've discussed today -- I want to flip back to Exhibit 37, which is your bar chart, and it says "Wolfcamp Sand Completions."

A. Okay.

Q. What studies have you undertaken to look at the 3rd Bone Spring completions in other similar areas where you looked at well performance and well spacing?

A. Similar areas -- I mean, there is not enough data. You know, the 3rd Bone Spring, you have the two OXY wells from 2014 and 2015. Marathon's drilled a few around us. We, you know, have not even seen a completion report. I can't do the study.

Q. Have you looked at anything from Reeves County?

A. From -- yes. In Reeves County -- oh, there's really not much 3rd Bone Spring in Reeves County. It's predominantly Loving and Ward Counties where you have a lot of 3rd Bone Spring typically drilled on four wells

per section.

Q. Okay.

A. Not very many tight spacing tests.

Q. Okay. So not a lot of tight spacing within the 3rd Bone Spring.

And have you looked at the deeper Wolfcamp Formations within this area to see how wells are being spaced?

A. Yes.

Q. Okay. And did you conduct an empirical analysis compared to what you did on the Wolfcamp Sand?

A. I have not built this chart for the Lower Wolfcamp --

Q. Okay.

A. -- to look at spacing.

Q. What studies did you do before proposing your Lower Wolfcamp wells?

A. Studies, you know, forecasted a lot of wells out, projected EURs, you know, using standard arch declines, looked at the development patterns in the area, and, you know, did something consistent with what appeared to be working in this area.

You know -- you know, there was a question, I know, with one of the previous witnesses about the -- you know, the permeability of the sands being greater

than the shale, but you'll remember from -- back in April when I presented some data on the Lower Wolfcamp Shale, I had to present it in BOEs because the gas, you know, portion is so much more in the Lower Wolfcamp. So, you know, while the permeability of the rock itself may be lower, since it's a gas phase, you know, you don't need as many wells to recover it.

Q. Okay. So your testimony is that BTA did perform studies before proposing the spacing for the 7H and the 8H wells?

A. Yes.

Q. Okay. And we don't have copies of those studies today?

A. No.

Q. Do you know what type of --

A. Oh, and we performed studies to estimate the reserves on the Lower Wolfcamp wells. Spacing was determined looking at what operators in this area -- basically looking at a map and seeing how other operators are developing out here.

Q. Okay. But BTA has not conducted any of its own studies --

A. No.

Q. -- to determine a proper --

A. A statistical study, no.

(The court reporter requested the parties speak one at a time.)

Q. Okay. That concludes my questions. Thank you.

EXAMINER JONES: Mr. Brooks?

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. Okay. I don't know enough about this to ask very many questions, so this will be brief.

Do you know if -- I asked another witness this, and the answer was doesn't know. I don't know. Can you -- is it possible to assign -- for an operator to assign an approved federal APD to another operator without having to do the full APD review by BLM?

A. I don't know.

Q. Neither do I.

A. Let me say, Marathon bought BC and I assume is drilling on some of BC's permits -- federal permits that they obtained. Obviously, there's got to be a way, so --

Q. Well, I know. I'm sure there is a way to do it. I'm just wondering what the time frame is, since it might be relevant in this case if -- you know, if Marathon loses, they could assign their permits to you, then it's less of a consideration. If it'll take six months to a year to get that approved, that fortifies --

A. I don't know if there -- or even what the process is. I assume there is, but it may be one of those that's easier to get a new one.

Q. Okay. This business of well density is very important; is it not?

A. Yes.

Q. I have heard engineers testify that it's not really very practical to drill infill wells if you get your wells too far apart because the wells you've drilled have messed up the possibility of infilling. Would you agree with that testimony?

A. Not -- not necessarily.

Q. Not necessarily, but it might be?

A. Drilling an infill well -- I'll say in our experience when you drill infill wells between two existing wells --

Q. That's what I'm talking about.

A. -- that have a history of production, they will underperform the parent wells, but they may still be, you know, economic to drill.

Q. If you make your density decision and you get your wells, you don't -- you drill too many wells, then you may get less production, and you've spent $10 million a well to drill wells that reduce your production instead of increasing it. That's a very

expensive mistake.

A. It is.

Q. But if you drill infill wells -- if you drill too few wells, then you have to deal with the problem of drilling infills in between existing horizontals. That could be an expensive mistake also, right?

A. Or you don't drill the infill well and you take longer to recover the oil --

Q. Right.

A. -- from the parent wells.

Q. Right.

And either one of those could be an expensive mistake?

A. Yeah. We certainly don't -- in year 40, it's not worth very much today.

Q. Thank you. I think that's all I have.

EXAMINER JONES: Okay. I might think of something in a minute.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. Are you still planning on your 3rd Bone Spring Sand, to drill in the bottom of the 3rd Bone Spring Sand?

A. Yes.

Q. Okay. So if you do that, you're really close

vertically to your Upper Wolfcamp?

A. Yes.

Q. But you're not worried about that?

A. We obtained a model that showed that there was a barrier -- I mean, they're not going to be stacked immediately on top of each other. You have to remember there is some lateral offset as well here, too.

Q. Okay. Okay. So -- but that model is based on the sand travel or placement in that particular well, and if you increase it -- your pressures a little bit higher, maybe you might break through that barrier or drains pressure --

A. That's possible. We can -- you know, frac design -- you know, that was a pump schedule that was applied to those different zones. We can adjust that. We can potentially dial one back of the child well if we think there is an issue.

Q. Okay. Is there -- but the major stress-determining method -- or on your deep Wolfcamp well that you drill, are you going to do some kind of array sonic or something? Are you going to do a di- --

A. Or dipole.

Q. Do they call it dipole still?

A. Schlumberger is now calling it the sonic scanner tool, which is what our model was based off of.

It was a sonic scanner that generated the stress data, and the stress was fed into the model.

Q. Okay. Okay. Well, that's state of the art. Is there a way to do actual reservoir engineering out here? I mean, you've actually done some empirical decline curve stuff, but can you actually do any kind of volumetrics or match your declines and try to figure out if you -- what your reservoir actually is out here?

A. I use -- I don't know if you're familiar with Fekete's -- their rate transient analysis program, which, you know, you're basically building a model and you're history matching a calculated bottom-hole pressure and then building a forecast off of that.

Q. Okay.

A. I use that quite a bit. Call it a very, very crude simulator.

Q. Okay. Okay. Well --

A. It's simple to use.

Q. Analytical type?

A. Yes.

Q. And what about your gas gathering out here? Was there any differences in these wells that you got graphed here between your draw-down surface pressures, you think, that had anything to with this?

A. I don't know, but if you go back, most of these are Matador wells --

Q. Okay.

A. -- you know, all across these. So unless they intentionally hit these two harder --

Q. Okay.

A. Yeah. I believe the Loving Townsite's a Mewbourne well, and all the rest of them may be Matador.

Q. Okay. What about your 2nd Bone Spring Sand? Are you still --

A. You know -- yeah. We'll get to it at some point.

Q. Okay. Well, that's all the questions I've got.

EXAMINER BROOKS: I do have one more I forgot. I don't know if you're the right witness to ask it.

RECROSS EXAMINATION

BY EXAMINER BROOKS:

Q. Under the rules as I read them and as I'm inclined to infer -- and I'm not sure that -- I'm not sure at this point, since there are no well rules -- the compulsory pooling rule, but I would assume that if you want to drill infills without waiting until after you've completed the first well, that you're going to have to get them mentioned in the order as initial wells. At

least that would be the prudent way to do it.

Have you, in your applications that we are considering, specifically identified all the wells that you want to be drilling prior to completion of your first wells?

A. I can't speak to that. I'm sorry.

Q. Okay. I wasn't clear on what -- I have not looked at the applications to see what's in each case, but I just want to be sure that you're alerted to that.

Thank you. That's all I have.

EXAMINER JONES: Any cross, torture this guy a bit more?

MR. FELDEWERT: No. I don't have any more questions.

I will say, Mr. Brooks, I mean, you know, they did not -- the 7H and the 8H is not listed in the pooling application principally because, number one, the list of wells that are going to initially develop your spacing unit.

EXAMINER BROOKS: Well, if you're going -- if you know you're going to complete the 5H and the 6H before you drill the 7H and the 8H, then that would not matter as long as you have time to -- 30 days to propose. So that's really the only consideration. I'm just trying to make sure you're aware of that.

MR. FELDEWERT: And the other thing is I know the horizontal well rules do not require that to some extent --

EXAMINER BROOKS: You know, I know they do affect it, but I don't know exactly how, and I don't have a copy of the horizontal well rules with me. This is one of the first times in months that I haven't, but --

MR. FELDEWERT: And my assumption would be that neither party would want to take the position that would prevent the drilling of the wells that are necessary to keep the deep rights from being --

EXAMINER BROOKS: That sounds like a reasonable assumption. I'll let you advise your client on its rights and read --

MS. BRADFUTE: Mr. Examiner, if I could, I have one point that might help further this. We don't have any geologic data from BTA on the Lower Wolfcamp, so there was no geology testimony, which is typically needed if those wells are going to be added to the Lower Wolfcamp. There is no cross section.

MR. FELDEWERT: Well, then perhaps I'm wrong about the parties' equal incentive to get the Wolfcamp drilled.

MS. BRADFUTE: Well, no. We would like

to -- you know, we want to have everybody in a position to not have lease rights expire, but if we have someone on the record --

MR. BRUCE: I don't recall anything in the rules that you need geology to propose any well.

EXAMINER BROOKS: Well, I think you're right. It's only on a compulsory pooling case that that might be the understanding.

MR. BRUCE: That's for the initial well.

EXAMINER BROOKS: But I don't think we -- I think I'm remiss in having gone there this afternoon because I think I'm -- I think I would say: You filed the papers, you sent your notices, all of you, and that's what we have to go by.

EXAMINER JONES: Any more questions for this witness?

Is that it for BTA's case?

MR. FELDEWERT: Yes, sir.

EXAMINER JONES: Okay. Let's take a ten-minute break.

(Recess, 1:42 p.m. to 1:56 p.m.)

EXAMINER JONES: Let's get back on the record. Who wants to present the next --

MS. BRADFUTE: Jim, do you want to go ahead, since --

EXAMINER BROOKS: Did you rest, Mr. Feldewert?

MR. FELDEWERT: I did.

EXAMINER BROOKS: Okay. Go ahead.

MR. BRUCE: I suppose -- I mean, we're willing to do it either way. We're here to support BTA. On the other end, my client wasn't at the first hearing, so we didn't see what Marathon --

EXAMINER BROOKS: I was going to save some questions for the last witness that I will rule on the motion to equalize challenges. I will certainly make you --

MR. BRUCE: We'll go forward.

EXAMINER JONES: I didn't know you were going to show us a book.

(Laughter.)

MR. BRUCE: Mr. Charuk decided he could make it readable.

EXAMINER JONES: Okay. We are getting older.

THE WITNESS: As I get older, my maps get bigger.

EXAMINER JONES: Someday we'll have televised or at least broadcast hearings.

EXAMINER BROOKS: Well, we have the

equipment. We just don't have the know-how, except for Phillip and I. We don't get along, so we have clashes.

EXAMINER JONES: Do you want to open yours and I'll look at --

EXAMINER BROOKS: If you want to. I was trying to get away from the stuff I already had spread out.

MR. BRUCE: I always like the sound of opening maps and paper rustling.

EXAMINER BROOKS: Which one are you going to talk about first?

MR. BRUCE: Exhibit 1, believe it or not.

EXAMINER BROOKS: All right. We'll open Exhibit 1.

LYNN S. CHARUK,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name and city of residence for the record?

A. Lynn Charuk. I live in Midland, Texas.

Q. And by trade, what is your profession?

A. I'm a petroleum geologist.

Q. Are you currently a consulting petroleum

geologist?

A. No. I'm not really consulting. I'm an independent. I generate prospects. I invest in my prospects, and I take pieces of other people's prospects in that scenario.

Q. Let's go back to your education and employment background. You've testified up here before?

A. Yes.

Q. It's been quite a while?

A. About 15 years.

Q. Well, let's talk about your educational and employment background. Could you outline that for the Examiner?

A. I went to Penn State University and have a BS in petroleum geology, and I graduated in 1969. And I came to Midland in 1980, and I worked for -- first I did a year and a half or so of mud logging, and then I worked for J.C. Williamson, who was a pioneer back in the '40s. And he was sort of my mentor and several other pretty important geologists in Midland in the '60s and, you know, big wildcatters. And I learned a lot about samples. I do a lot of my own sample work. I look at all the mud log shows. When I drill a well, I make sure I'm out there for all the DSTs, coring. We were out, my son and I, coring a well just the other

night in Dawson County.

Then I went to work for -- opened a company office for Carey Petroleum out of New York City and ran a Midland office until -- oh, when was that? -- about 2001, when I went totally independent on my own.

And then I became, in 2009, vice president of exploration for Atlantic Exploration in Midland, and we were one of the first companies to start buying acreage in Reeves County, around Pecos, and drilled some of the earliest Bone Spring-Wolfcamp horizontal wells around Pecos, along the river in Ward County, offsetting Anadarko's work out there.

And I retired from that in 2013, and I went high tech or I tried to. I got, you know, a Petra program of my own and my own geotech, and I started doing what I do best, generating prospects in Eddy and Lea Counties. I've spent probably 38 years focused on Eddy and Lea Counties alone. I have other assets in other counties, but 98 percent of my properties and my production come from Eddy and Lea Counties.

I worked with companies -- I have interests with COG, EOG, CAZA, Marshall & Winston, Mewbourne, XTO. And I used to have a few more, but Concho keeps buying all the companies that I have interests in, so I'm kind of down to about, you know, half a dozen or so.

And I have a royalty interest in these two sections here. I represent -- I actually put this deal together back in maybe 1998. It was a Delaware Sand, vertical sand prospect, for Lower Brushy Canyon. And over the years -- SDX was the original operator of these two sections, and we had about -- at that time, about 2,300 acres under lease, but over the years, we've lost some of that acreage due to, you know, wells being plugged.

BTA bought those wells back in -- I want to say 2002 -- 2005, and they actually drilled one of the first Avalon horizontal wells way further north of where the Avalon trend started down in southern Eddy County. It wasn't a very good well because the completions back in those days are not quite what they are today. But they've been holding the acreage together for that long since then, and the wells have been producing.

So I represent about 8 percent of the royalty interest in these two sections.

Q. And BTA has done a pretty good job of keeping the leases alive and keeping them available for future development?

A. Yeah. Absolutely.

Q. And have you conducted over the years -- let's take a step back. As you said, this originally started

as a Lower Brushy Canyon prospect?

A. Uh-huh.

Q. So you've looked at a lot of formations out here and the most recent are, of course, the Bone Spring?

A. I've spent the last, you know, five years focused on just Eddy and Lea Counties for the Avalon Shale, the cutoff shale, 2nd Bone Spring Sand, 3rd Bone Spring Sand and the Upper Wolfcamp as well, and now these Lower Wolfcamp zones that are starting to be developed primarily in Eddy County.

Q. And have you conducted a geologic study insofar as it applies to these applications?

A. In general. I haven't just focused on these two sections. I've looked over all -- the whole area because I have interests in -- in this area, I have interests in 25-29 just to the south with XTO, and then I have a lot of interests in 26-20 and 26-28 right on the state line with Concho, the Cabo Wabo wells. And I'm familiar with what's being developed out there. Yes. Uh-huh.

Q. And you're constantly updating your knowledge insofar as the Bone Spring --

A. Yes. I try to, yeah.

Q. -- and the Wolfcamp?

A. We just completed two wells over in Lea County with CAZA in the Lower 3rd Bone Sand, and they're -- they're like fantastic wells. They're probably like one or two in the top five wells in Lea County right now. The first well has made 300,000 barrels in the first six months in the Lower 3rd Bone Sand. And primarily the two reasons for that is the longer length laterals, going from the mile to the mile-and-a-half. And even the two-mile laterals are really working well for Devon and Mewbourne. And we just drilled two Mewbourne wells down in 26-33, in the Braswell area, that we're waiting on frac pits to be filled that Mewbourne drilled in the Upper Wolfcamp.

And the other -- the other really big development has been the fracking -- going from gel-type fracs to slickwater fracs and also increasing the amount of pounds of sand per lateral foot. You know, like five years ago, a typical frac had 500 pounds of sand per lateral foot. Now we're talking like 2,500 pounds per lateral foot, and we get much better results like that.

And I've heard some excellent questions from you guys today regarding spacing. Spacing is really -- everybody has a different opinion on it, you know. As a royalty owner, I want spacing to be optimal, but I also don't want it to be overdeveloped because,

like you said, you're going to spend millions of dollars drilling wells that you don't need to drill.

And I know -- I've been involved with EOG who thinks they should drill 12 wells per section in the same zone, but when you're talking about the same zone, you know, sometimes do you a wine rack kind of interval where you raise and lower that lateral where it hits, so you're not really interfering with each lateral. But you can still get to the point where it's overkill, where you're -- we saw a lot of communication.

We drilled three wells down in the Braswell area, excellent wells, and within four months, they had already made 300,000, 400,000 barrels cumulative. And EOG drilled three more right next to them and fracked them, and now the six wells are doing half of what the first three were doing. And so that was not a good investment, wisely spent dollars.

MR. BRUCE: Mr. Examiner, I tender Mr. Charuk as an expert petroleum geologist.

MR. FELDEWERT: No objections.

MS. BRADFUTE: No objections.

EXAMINER JONES: So qualified.

Q. (BY MR. BRUCE) Mr. Charuk, let's start out off with Exhibit 1 titled "Marathon Current Horizontal Activity."

A. Yes. That was just a little quick survey I wanted to do, I had my tech run. This is just to see where Marathon's activity is in the area, and it shows -- it shows basically -- here is the city of Loving, Eddy County. Here's the two sections we're talking about. These are Marathon's stakes, locations, permitted locations. Like Brent [sic] was saying, they pretty much have this acreage surrounded. As you can see, they're doing two-mile laterals, mostly mile-and-a-half laterals, mostly north-south like everyone else, which makes sense. So that's just exhibit -- this exhibit here, what it's showing.

Q. Okay. Let's move on to Exhibit 2, which is the map -- the one you have on the floor there.

A. Yes.

Q. And discuss this briefly, kind of expand.

A. This is just kind of -- it's self-explanatory really. It's nothing complicated.

The big one on the top left -- this one up here just shows all the longer-than-one-mile laterals being drilled now versus all the one-mile laterals that were drilled in the last six or seven years on the top right. And this is just to show that the trend is going towards longer -- longer-length wells.

The bottom three maps just really show --

the bottom one on the bottom right is just the structure map on the top of the Strawn, which lies right below the Wolfcamp. I just wanted to see if there were any big indications of any kind of faulting or anything. And like Raj testified, you can see, most of the dip is -- in the Delaware Basin is kind of like on the east side. It's real steep down, but as you go to the west side, into Eddy County, it's a gentle updip as you go west towards Roswell.

And the strike is, kind of generally speaking in this area, running north-south. So that's why you want to drill north-south so you don't have to steer updip or downdip. You can pretty much stay flat along strike.

Q. And do you see any evidence of faulting in the Strawn?

A. Well, no. I don't see any evidence of faulting. I -- I don't know -- I know there could be deep faulting in the Mississippian. And in the Devonian, there's always that kind of faulting. But by the time you get through the Strawn and into the younger Permian beds, you know, Cisco Canyon and Wolfcamp, a lot of the tectonics did not reach up that high. There may be some slump block faulting, but just minor things, nothing that would really, you know, hurt a horizontal

well going north-south.

Q. It wouldn't prevent the drilling of a decent horizontal well?

A. I wouldn't think so.

Q. Do you have anything else you want to say on this map?

A. The only thing I would say is, like, I don't see -- most of the 3rd Bone development is occurring in Lea County and up to the -- this is the Eddy-Lea County line here. Most of the 3rd Bone Spring has to date been mostly in Lea County. There is some Devonian -- I mean 3rd Bone development southeast of our lease. And, like, everyone's been talking about the OXY wells, and Marathon has been drilling some 3rd Bone. But mostly in this area, I would say it's mostly 2nd Bone and the Wolfcamp X-Y Sand like we've been talking about this afternoon.

Q. And Exhibit 3 is a pretty simple chart, isn't it?

A. Yeah. It just shows the length by year. Every year, the wells keep getting longer. It's this one here (indicating). It's just showing, you know, starting out with that length. And, you know, over the years, the trend has been for longer laterals, increasing EURs, recoveries.

And it's much more efficient the longer you can drill because then you don't leave any waste behind, especially on section-line boundaries, you know. If you can cut through a section and get another half a mile, you drain a lot more rock than if you have to stop at one mile and then start a new one, because you've got the curve to deal with and all that. So you are wasting reserves when you're doing shorter laterals, in my opinion.

Q. And when you first saw Marathon's proposal, they were for one-mile laterals?

A. Yeah. That's what kind of got me spooked and why I replied to BTA and wanted to come up here and testify, because, you know, I know what's going on, and I was worried that one-mile laterals were not going to be sufficient enough. And as a royalty owner, I'm concerned about correlative rights. I'm concerned about drainage and making the best well possible to maximize my interest and my partners and you guys, too, really.

Q. Let's go on to Exhibit 4. What is this briefly?

A. Okay. This is just kind of a little cross section. This kind of shows in bigger -- wait. Which one are we talking about? That's the type log.

Q. The type log.

A. The type log is the old BTA State JB Com well. That's the old vertical well that was on Section 29, I believe. No. 32. It was in Section 32. And this is showing all the potential pays that are in this area that's worth, you know, hundreds of millions of dollars.

Starting at the top, I believe we have -- the very top one are the Lower Brushy Canyon sands. Since we did make oil out of the Lower Brushy here, we probably have some -- multiple locations in what I would call the Lower Brushy C and E Sand, which is a big development that XTO's doing over in the Big Eddy Unit and places like that.

The dark green one is your Avalon Shale, which was probably the first horizontal target that started this whole thing off back in, you know, 2007. Marbob was doing a lot of work down on southern Eddy in this green one.

And then the 1st Bone Spring Sand, which has kind of been a stepchild lately. It hasn't been targeted, but I know over in Lea County, over in the Lea Unit, Legacy just made some fantastic wells in this light blue one here. And then the 2nd Bone Sand, which is a lot of production around us, it's very well proven, and most of the spacing is four wells per section.

And then you go to what I call this

little -- who was it that did the study on this one? Oh, I can't remember now. But it's the BOPCO sand, I call it. It's kind of in between the 2nd Bone and the 3rd Bone Sand, and it's been -- it's kind of a minor zone in the area, but it did have a good mud log show in this well.

And your 3rd Bone Sand is in purple down there, and it sits right on top of the Wolfcamp Carbonate. And that's kind of what we've been focusing on today, that little area right there between the purple and the yellow and the green. And the yellow and the green are what I call the X-Y sands in the upper part of the Wolfcamp.

And then as you go deeper, you get into the orange zone, which is what I call the Upper Wolfcamp Shale -- Upper Wolfcamp Shale.

Yellow is your Wolfcamp B.

And then Wolfcamp C, a lot of the operators, like we were talking about earlier, Matador and Mewbourne, are targeting that -- that zone around 10,5, 10,4, the Wolfcamp B Shale. Some are calling it the Lower Wolfcamp.

We don't really have a really good nomenclature around the Permian Basin, and different operators have different names for all these zones. So

it can be really confusing for people that don't work with them all day, you know, because I have people who call me and say, Oh, they just made a well in the Wolfcamp C. And I look at it and I say, No, that's in the A, you know. And it's just very confusing. We should have some kind of a convention where we set up a nomenclature and have a type log that sets all this out so we can avoid a lot of this confusion, because there is a lot of confusion. I've heard a lot of confusion today. And it's no one's fault. It's that things have changed so fast in the last five or eight years, you can hardly keep up with it.

And, you know, the fracs are another example. Every six, eight months, there are new techniques being developed in the frac jobs that are enhancing these zones unbelievably. They're coming out with this nanotechnology. Companies like EOG, they only frac with 300 mesh sand now because all the oil is in nanofractures. And if you use like a 40/70 sand or something, it's like trying to get a bowling ball through a garden hose. It's not going to go. You've got to get this really fine, fine -- it's like talcum-powder sand, even finer, to go through and get into these and open these nanofractures.

Plus, with the slick water, the slick water

does not carry heavy load very far. So you need that lighter sand, and it's getting into the fractures. And they put some surfactant in there to break the oil molecules into smaller parts so they can flow faster through there, and, hence, you're getting, you know, 2,000-barrel IP type wells.

Q. And let's talk about that, especially the difference between the Upper Wolfcamp and the Lower Wolfcamp, however you define that. Now, are the phases, oil or gas, different between the Lower Wolfcamp and the Wolfcamp Sand?

A. Yes. We can move to the next display if you like. But the Lower Wolfcamp is much more gassier, and its GORs are probably, I would say, 10,000, almost 20,000-to-1 GORs in the Lower Wolfcamp where they're targeting, like, a 10,235, 10,375.

And I'm talking right where your hand is there, Mr. Examiner. That's kind of where we're looking, right here in this yellow (indicating). This is kind of the type section across the BTA acreage, right here (indicating).

EXAMINER BROOKS: Mr. Bruce likes to hear the sound of unfurling maps, so I'm --

(Laughter.)

EXAMINER BROOKS: Okay. Now you may go

ahead.

THE WITNESS: Okay. So right where your left hand is, this is the BTA-Marathon acreage right there. And those are probably -- breaking it down, I would say right now there's three targets -- main targets in this area, and it's what I would have as the Wolfcamp B or the yellow area. And this is really gassy. And it really -- it's just -- think of it as a high GOR gas well. You don't really need to drill those on 40 acres. You can do those on 160s or 320s. And that's what I think the development should be for these areas, for these Wolfcamp B.

If you go up to the X-Y sands, now the X-Y sands are sitting right on top of the very top of the Upper Wolfcamp, but right below that little -- where I don't have any color. Between there and then the purple, that's what everyone's been talking about as the mechanical boundary. Some call it a mystical thing like that.

EXAMINER JONES: (Indicating.)

THE WITNESS: Yes.

All it is is you're changing from tighter shale rock in the Wolfcamp and going into -- and the shale rock has lower porosity, lower permeability. And you're going from that into this Lower 3rd Bone Sand,

which is more siltier, sandier, less clay, so it has a little better porosity, permeability. And like everyone knows, if you come in here and land a target in this green zone and just go horizontal, that frac is going to be -- all these fracs go always in the path of least resistance, so they're going to follow the lowest pressure gradient that they can find. And they're going to stay within that green zone. They may break through -- a slickwater frac may break through into a yellow sand, but in my opinion -- and I've talked to a lot of petrophysicists, really good ones, at Schlumberger and Halliburton. In my opinion, we're not fracking more than 100 feet up or down together because the slick water just won't go that -- won't generate that much frac height.

And, therefore, I think that we're fine as far as, you know, draining the Wolfcamp sands independently of drilling 3rd Bone Spring wells at the bottom. I don't see a big problem there. As a working interest owner or a royalty owner, I have no problem with that.

Q. (BY MR. BRUCE) So you'd agree with BTA's witnesses that you can drill 3rd Bone Spring and Upper Wolfcamp wells independently of each other and still recover decent reserves?

A. Yes, because they're separated by a change in lithology, is what it is, and that's the frac boundary. It's the change of going from tighter rock in the upper part of that Wolfcamp to more porous, permeable rock in the lower part of the 3rd Bone Sand.

As an example -- well, I just completed these wells over here on the right side of the cross section (indicating) that were offsetting some Concho wells that were drilled in 2013, 2014 and 2014. And these wells cumed -- and this is a little older map. But these wells cumed -- the original well, the parent well, cumed 300,000 barrels from the Lower Bone Spring. And you can see I put the TVDs there in bright red where they're at. The next two wells that are right there on four-well-per-section spacing have cumed so far -- and they were drilled a year later -- have cumed 175,000 and just slightly under 190- -- 200,000 barrels out of the exact same reservoir.

But the difference is we don't have the 3rd Sand anymore. They pinch out. And these two areas are 43 miles apart. You can see on the map there at the bottom right. But we don't have the sands, so we're sitting right on top of Wolfcamp Shale right here.

And then the CAZA well, which was drilled in 2017 which offsets these three wells (indicating) has

already -- and this map is only a couple months old. But this CAZA well that I have an interest in it has already made 300,000? So it's made as much as -- what the original COG well did in five years, it's made in six months. It also is a mile-and-a-half length.

Q. Mile-and-a-half, plus --

A. Nanofrac technology --

Q. -- better technology.

A. -- newer frac.

I guarantee, every company in the Permian Basin would like to re-frac about half of their wells with what we know today. I mean, they would like to have a free frac, you know, but it's not possible.

Q. Yeah.

But getting back to the Wolfcamp over in the subject area, you know, if you're down in the Lower Wolfcamp and the phase is gas, which it usually is in the Lower Wolfcamp --

A. Yes. It's much gassier down here.

Q. The gas is more mobile than oil?

A. Yes. It moves through the rock faster.

Q. And so with the proper frac, you can produce -- you can produce a lot of gas at lower perms than at the higher perms?

A. Yes.

Q. I mean --

A. Tighter rock.

Q. -- with sand?

A. Yes. It's tighter rock. Yes.

Q. So a lot of these -- you know, there are particularities to almost every Wolfcamp zone?

A. Yes. Every zone is a little different, and you have to tailor and design your frac jobs for the zone you're in. Typically, everyone likes to pump as much proppant as fast as they can. And in the case of the Lower Wolfcamp, I mean, you're like 1,000 feet from the 3rd Bone or the Upper Wolfcamp X-Y sands. You're never going to see any interference from these wells with any of this (indicating) going on up here. It's never going to happen. There is too much rock distance between -- thicknesses between there.

Q. And would it also go that when you're dealing with the Wolfcamp gas wells, you might not need as many wells to recover reserves in a section or a half section?

A. Yeah. And I think Matador and Mewbourne have probably led the way in this area. As far as companies that do a lot of science, they have probably done microseismic and all the research, and they've concluded that four-well spacing per section for this Lower

Wolfcamp is adequate, and it's a good drainage. It doesn't leave any waste behind.

Q. Before we close up, I want to ask you: You were sitting here listening to the testimony today, correct --

A. (Indicating.)

Q. -- and about questions about the timing of drilling?

And you've been in the business for 38 years. You're not an operations guy, but you've been involved in drilling -- commencement, drilling, completion of many wells; have you not?

A. Yes.

Q. Is it difficult to predict today when you're going to commence a well and when you're going to complete it?

A. The hardest thing to predict is -- I mean, I know the Beals. I've known them for a long time. They don't -- they don't want to sit on a 400 -- or $4 million or $5 million well that's not completed. They want to get it fracked as soon as they can.

But the bottleneck things are filling the frac pits. I mean, it takes millions of gallons of the water to fill a frac pit. Some areas have better water supply than others. I've waited numerous -- sometimes

three or four months to fill a frac pit, to get enough water to begin the frac. I've also had delays because of prairie chicken season, where we couldn't go in and bring in trucks or anything. I've had to wait on some wells up to six months. But nobody wants to wait any longer than they have to.

Sometimes the frac crews -- we have a shortage of frac crews. Sometimes that will affect when -- when the completion date starts. So those are the big factors.

Yeah, lining up -- I mean, the fracs are so huge. You've got all this sand. And, I mean, if you've ever been out on a frac job now versus 20 years ago, it's like -- it's like a small city out there. I mean, you've got all the, you know, logistics of getting everybody together, getting tested, the pipelines. I mean, you're pumping at 6- to 8,000 pounds. You've got to make sure that it's safe out there for people to go out there. So yeah, I've seen probably average -- I agree -- three to four months between the date of a rig moving off location and getting a frac crew out there. Sometimes it's faster, but no one can really set that date. Marathon can't even do that, unless they own their own frac crews. Maybe they do. I'm not sure. But it's a moving number.

Q. And plus that doesn't take into account getting your APD, getting your surface-use agreement, getting your pooling orders?

A. Right.

Q. But as you said, operators don't want to sit there and not have --

A. No water coming out of the well. Right. Neither do the royalty owners.

And that's why I've been so frustrated, because BTA told me they were going to spud these wells last fall, you know, and here it is, we're almost a year later and we're still kind of arguing about who's going to be the operator.

Personally, I've been in so many deals that usually the people with the most money and skin in the game, they ought to be the operator, unless they're totally incompetent. And the Beals, they've been in business for -- they're third generation here in Midland. I've known them for a long time. J.C. Williamson was friends with Carty Beal. And I've been on a board of directors with Spencer and Karen Beal, and I know how they think. They want -- they have their own money invested in this project, you know. So -- and I can see the frustration, but it's kind of -- to me it's like the tail is trying to wag the dog here.

We've got a 30 percent interest owner who wants to do all this science, and they want the 80 percent or 70 percent owner to pay for the well, for most of it, you know. I would say if Marathon wants to really do all the work they want to do, they should go -- they have plenty of leases they bought from BC last year. They should go and do it where they own 100 percent. That way they don't have to share any of the proprietary data with anyone else.

Q. And in short, you favor BTA's development plan and their application?

A. I favor -- I favor BTA because I've known them for a long time, and I know that they're a prudent operator, and they're a good operator. They've drilled all over Eddy and Lea Counties for 60 years now.

I know Marathon has operated the Yates field down on the Central Basin, edge of the basin platform down there. And they bought all this acreage from my friends, Lee and Mike Black over at BC Operating, and they're probably trying to ramp up their operations and get more -- get more -- more wells that they control and get going, so I --

Q. And you don't have a problem as such with Marathon?

A. No, nothing. Nothing at all. No. I just want

to get wells drilled, and I want to start before leases start expiring and I lose my overrides and my partners lose their overrides. That's my biggest motivating factor.

Q. And two conclusions -- the main conclusions are you favor the longer laterals versus, say, one-mile laterals?

A. Absolutely.

Q. And secondly, you see no need to develop the 3rd Bone Spring simultaneously with the Upper Wolfcamp?

A. No. I think that the X-Y sands -- pretty much the frac stays in that zone, because they are sands. And these two little -- these two little guys here (indicating), they have a lot more perm and porosity than the rock above and below them. So they're not going to go into harder, tighter rock that's harder to break into. They're going to stay in the path of least resistance. They're going to stay in zone. And that's what you want to do. That's the whole idea of these fracs. You don't want to grow them. You want to stay in the zone that you landed in.

Q. In your opinion, should the Division grant BTA's applications and deny Marathon's applications?

A. As soon as possible for me. It couldn't happen fast enough.

Q. And in your opinion, would that be in the interest of conservation and the prevention of waste?

A. I think so.

Q. And were Exhibits 1 through 5 prepared by you or under your supervision?

A. Yes.

MR. BRUCE: Mr. Examiner, I move the admission of Charuk Exhibits 1 through 5.

EXAMINER JONES: Objections?

MS. BRADFUTE: No objections.

MR. FELDEWERT: No objections.

MR. BRUCE: And I pass the witness.

EXAMINER JONES: Charuk's Exhibits 1 through 5 are admitted.

(Lynn S. Charuk Exhibit Numbers 1 through 5 are offered and admitted into evidence.)

MS. BRADFUTE: I'll let Mr. Feldewert go ahead.

MR. FELDEWERT: Go ahead.

CROSS-EXAMINATION

BY MS. BRADFUTE:

Q. Mr. Charuk, I didn't write this down. How long has BTA had these leases, in your experience?

A. 2005, they've been operating the Delaware wells that are holding these leases. We've lost a few leases

in the interim because I think we plugged one well, and so my royalty has kind of shrunk -- or all my partners have shrunk over the last ten years, but we still have a substantial amount, like 8 percent total.

Q. Okay. But it's been since 2005 that BTA --

A. Uh-huh.

Q. -- has at least had some leasehold within the spacing units?

A. Yes. And they drilled the horizontal, the Ogden 1H, which was an Avalon horizontal, in 2005, 2000- -- somewhere in there. It's on the east half of 29, and it goes into the east half of 32 as well, northeast quarter.

Q. Since 2005, to your knowledge, has BTA engaged in any development on the west half of Section 29 and the northwest quarter of Section 32?

A. No.

Q. You testified earlier -- and correct me if I'm mischaracterizing your testimony. You testified earlier that gas wells typically need larger well spacing; is that correct?

A. Well, you don't need to downsize them on a tighter -- too tight of a spacing because the gas expansion of the reservoir will -- will cover a bigger area and recover more oil without having to drill that

many more wells. Do you see what I'm saying?

Q. Okay. In your opinion, is BTA's plan for the Lower Wolfcamp Formation adequate for the spacing plan?

A. I think it's -- I think it's a prudent plan. I don't think -- I've known BTA for a long time. I've never known them to get ahead of their headlights. I think it is a good plan. I think you need to -- like Raj was saying, you need to core -- or -- or run, you know, all the new logs that they have, sonic scanners, litho scanners, CMRs. You know, you need to analyze this entire section, and that way you can decide where your best rock is, and that's where -- that will determine where you land your laterals in the future.

If you go out there and just start drilling, you're going to kind of like be a little ahead of yourself. You should really do your analysis and your science first, and the first well is usually the best one to do that with.

Q. Now, in your experience, operators have typically drilled the first well and gotten all of the information they need to then later run those analyses?

A. Some operators do. Some -- you know, you can save -- by not doing that, you can save a million dollars by just going into a curve. I mean, the beauty about Eddy and Lea Counties is we have so many old

well-control wells, you know, from the Morrow and all the drilling over the last 50 years that we have -- a lot of these sections have, you know, logs that go through the whole section already. So it's not like we don't know where the oil is or where we think it's best at -- looks the best, you know. But it's always good to get your perms and your TOCs and your brittleness. You want to stay in the brittle rock, not the ductile rock. And a lot of times, the logs don't tell you that. They don't tell you the perm or the TOC. You really need to use more modern technology, and that's usually -- with the modern logs, you get a lot of that information.

Q. Okay. Great.

How does BTA's plan compare to other recent well proposals that you have seen from COG and EOG?

A. EOG, they kind of like -- they have a different philosophy. They -- they just want to drill as many wells as they can because their employees' incentives are based on how much production they increase for the company by year. So I feel like EOG tends to overdrill a little too much. I mean, I think 12 wells in a section is overkill. But they're not using their own money.

BTA's philosophy and companies like Mewbourne who are family-owned companies, they're more

conservative. And I've talked to the engineers at Mewbourne, and they really feel like, you know, four wells per section is a good conservative approach to drainage. They don't want to drill more wells than they necessarily have to. And, like, there's been a lot of talk about the parent and the child wells, you know. People have been trying to tinker with that kind of relationship, where maybe they shut the parent well in for a period of three weeks or so and let the pressure build up, and that kind of tends to keep the frac from breaking too far over into that wellbore, and then also downsize the child frac a little bit.

There is also the other technology of the zipper fracs, where everybody just goes -- you know, if they have a half a billion dollars to spend, they go in and go 12 wells or eight wells across and do them all at once. It's just depends on the company really.

Q. So in your opinion, is EOG getting it wrong by downspacing too much?

A. I thought so. I had a working interest in that project, and yeah, we spent a lot more money than I thought we needed to. I mean, we had three wells making -- I want to say 3,500 barrels a day. And then we drilled 30 more million dollars to get three more wells, and now we're making 1,800 barrels a day. So, I

mean, maybe in 40 years everybody will know that answer. But, you know, the drainage -- they feel like connecting more and more rock in the long run, like 40 years from now, they're going to get more reserves out.

But like you were saying earlier, Mr. Examiner, you're trying to get a handle on oil in place. It's really hard to do that with these wells. We're not going to know because it's almost impossible to calculate oil in place in these kind of rocks because it's so -- it's so -- it's such a delicate calculation. It's not like the old days where we could have a finite tank, a reservoir, a sand, you know, that pinches out, and we can calculate the area of drainage and how big, you know, the reservoir is.

Now, we've got these things that cover two counties, five counties. You know, it's really hard to come up with oil in place, and, therefore, it's really hard to come up -- almost impossible with ultimate recovery per well, you know.

And so, you know, the parent wells may recover more oil faster, but the child wells might take longer, but in the end, it's made the same amount. We won't know until you have grandkids or something, you know.

Q. Thank you. That concludes my questions.

CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Charuk, that EOG project you thought there was some overkill, et cetera --

A. Uh-huh.

Q. -- what project was that?

A. Well, it was the Braswell lease that we drilled. And it's a perfect example, because EOG owns the west half of Section 16, 26-33.

Q. And do you remember the name of the wells?

A. Well, we just call it -- I think they're the Braswell 1 through 6.

And Mewbourne owns the east half of 16. Okay? That's the other half of the same section. EOG drilled six wells in the west half. Mewbourne has drilled -- just drilled two two-milers in the east half, and they're filling the frac pits right now on those, waiting on frac. So they have a totally different philosophy. They're going to probably end up doing four wells in the east half. Whereas, EOG did six wells in the west half. So they have a different opinion.

Q. And you were here for the testimony from BTA's witnesses where they have a lot of data that exists from other wells in this area, right, in formulating where they want to land their wells?

A. Uh-huh.

Q. You were also here for the testimony where they're drilling a Wolfcamp D well or a Lower Wolfcamp on the east half --

A. Uh-huh.

Q. -- and logging that well?

A. Uh-huh.

Q. And I want to make sure I understand. In your opinion, do you see that there is going to be waste from BTA's initial drilling plans in this area?

A. No. I don't see any -- any indication of that.

Q. One of the things I got from your Exhibit Number 1 was that Marathon's got a lot of other acreage that they can do their thing in, right?

A. Yes, they do. Yeah. Well, at least it shows up on the map. I don't know if they own 100 percent of that acreage or what their interest is or if they're maybe, you know, trying to do this with another -- I don't know.

Q. In your expert opinion and as an overriding royalty interest owner, are you better off going with BTA's plan that follows the spacing and development that's been used by other operators, or are you better off going with a science experiment here on the west half of the acreage, as you put it?

A. I'm ready to drill right now, and if BTA has approved permits, I think that that is the best course of action for the royalty owners, is to drill as soon as possible. I mean, you can argue all day long about how many zones you want to drill all at once, but, you know, a prudent operator doesn't do that. A prudent operator looks at the initial results, tries several other different zones and then does the final development stage. And that could take -- I mean, projects I've been in take five years to develop completely. It's just -- it's a longer process, you know.

Q. Yup. Okay.

MR. FELDEWERT: I don't have any other questions.

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. When COG bought up the companies you had interests in, did you laugh all the way to the bank?

(Laughter.)

A. No. Actually, it wasn't. No, it wasn't like that. It was a little more adversarial because they didn't -- they increased the -- I had working interests and overrides, and when COG bought them out -- and I don't mean like anything bad about it. They just operate -- they're more expensive operators than Marbob

was. And so really it hurts the ultimate recoveries of the wells because the expenses went up.

Q. Okay. Well, that's my only question.

(Laughter.)

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. You went to Penn State. I just wondered if you knew "Slip Slider," the petroleum professor there.

A. No. No. But I'm sure -- my roommate, he was a petroleum engineer. He went there. I went -- Penn State's more noted for geochem and metamorphic rock, and I could never figure out why nobody wanted to study sedimentary rocks and get in the oil business.

Q. They have the Marcellus there now.

A. Yeah, really they do. That's the biggest gas field in the world now.

Q. Uh-huh.

I like your maps.

EXAMINER BROOKS: Go ahead and move my stuff as necessary.

Q. (BY EXAMINER JONES) Well, I'm trying to get an idea of the scale from where the subject wells are over to this pinch-out.

A. Okay. Well, that's -- that's -- well, here's -- if you look at the corner bottom, that's the

area from where all these wells are, and then I just had my tech just kind of schematically pinch it out.

Q. Okay.

A. And then it goes over into Lea County. And this is 43 miles between the right half of this and the west half.

Q. Okay.

A. It's a big, big change. But where it actually pinches out, I haven't done that much of a study to tell you. All I can tell you is most of the 3rd Bone wells are in this area of Lea County (indicating). That's like 3rd Bone central over here, and 20-34 -- I'm sorry -- 20-35, yes, in this area and kind of west of the Hobbs area. And they're on four-wells-per-section spacing as well.

And what happens is -- you know, the sandstones, they are more permeable and have more porosity, so you need less wells. Now, when you get into the tighter rock and maybe -- maybe this Upper Wolfcamp shale, where you don't have such a high GOR, you might need to do eight wells per section because it's tighter. So you can get closer. But you do eventually reach a point where you're just communicating, and that's what happened with the EO- -- they all went off line, the first three, you know, and

they were all making water for three weeks before they came back, and they never came back as good as they were. So you've got to -- and that's a big dilemma for operators, and it's very important to know where -- you know, the spacing is very important.

Q. I don't have any more questions.

EXAMINER JONES: Any redirect for this witness?

MS. BRADFUTE: No.

MR. BRUCE: No, not me.

EXAMINER JONES: Thank you very much.

THE WITNESS: You're welcome.

EXAMINER BROOKS: I think it would be a prudent investment this late in the afternoon to take a 15-minute recess, for me.

EXAMINER JONES: Okay. Let's do that.

(Recess, 2:49 p.m. to 3:07 p.m.)

EXAMINER JONES: Ms. Bradfute, would you like to present Marathon's case?

MS. BRADFUTE: Yes. Thank you very much. Mr. Examiner, I have three witnesses to present today, and I'd like to proceed and call my first witness, Mr. Chase Rice.

CHASE F. RICE,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. BRADFUTE:

Q. Good afternoon.

A. Hi.

Q. Could you please state your name for the record?

A. Chase Rice.

Q. And, Mr. Rice, who do you work for?

A. Marathon Oil.

Q. And what is your position with Marathon?

A. Landman.

Q. And what are your responsibilities as a landman at Marathon?

A. Mineral title, acquisition investment, operational end work.

Q. And have you previously testified before the Division?

A. Yes.

Q. And were your credentials accepted and made part of the record?

A. Yes.

Q. Does your area of responsibility at Marathon

include Eddy County in southeastern New Mexico?

A. Yes.

Q. And are you familiar with the applications filed by Marathon in Case Numbers 16076, 16077 and 16300?

A. Yes.

Q. Are you also familiar with the applications filed by BTA in Case Numbers 16024 and 16161 and 16162?

A. Yes.

Q. Are you familiar with the status of the lands that are the subject matter of these applications?

A. Yes.

Q. And, Mr. Rice, for the record, have you previously presented testimony in Cases 16024 and 16076 on April 24th, 2018?

A. Yes.

MS. BRADFUTE: I would like to tender Mr. Rice as an expert witness in petroleum land matters.

EXAMINER JONES: Any objections?

MR. FELDEWERT: No objection.

MR. BRUCE: No objection.

EXAMINER BROOKS: How do you spell your last name?

THE WITNESS: Rice, R-I-C-E.

EXAMINER BROOKS: That's easy. I wasn't

sure if it could be R-E-I-C-H or R-I-E-C-H.

THE WITNESS: Just like the food.

EXAMINER BROOKS: Go ahead.

Q. (BY MS. BRADFUTE) Could you please turn -- everyone should have a new exhibit packet in front of them, which starts at Exhibit R. Could you please turn to what has been marked as Exhibit Letter R within this packet? And is this document a map which denotes the spacing units which are at issue here today?

A. Yes.

Q. And could you please help orient the hearing examiner and explain where the spacing units are located and where other Marathon operations are taking place within this area?

A. The spacing unit for the Zeus Federal, Marathon proposal, is the west half of 29 and the northwest quarter of the 32, 23 South, 28 East, Eddy County. And that's colored orange.

The activity around -- Marathon is drilling around that spacing unit in Section 30, 19-20, Section 18, Section 2 down in 22 -- 24-27. Sorry.

Q. And then is Marathon also conducting operations in Section 9 and Section 16 in Township 23 South, Range 27 East?

A. Yes.

Q. And the wells that Marathon is -- has drilled are shown as blue and red lines on this map, correct?

A. Correct.

Q. Okay. And those are wells that have been drilled?

A. Wells that have been drilled, yes.

Q. Okay. And we're going to have a geologist who is more familiar and actually put this map together testify later in the hearing, correct?

A. Correct.

Q. Okay. On April 24th, did you testify about Marathon's development plans for the Wolfcamp Formation within the west half of Section 29?

A. Yes.

Q. Since that hearing, has Marathon updated its proposed development plans for the Wolfcamp Formation?

A. Yes.

Q. How so?

A. We extended our laterals to be 1.5-mile laterals.

Q. And in those amended applications, did Marathon maintain its request for mile-long laterals but then also say, alternatively, if the Division finds that one-and-a-half-mile laterals are preferable that Marathon will drill mile-and-a-half-long laterals?

A. Correct. We wanted to give the Commission an alternative to a decision if they wanted, and that was the reason for that.

Q. And why were those updates made?

A. To accommodate some issues that were brought up with the override owners and then also our understanding of BTA's desire to drill in the east half of Section 29 and the northeast quarter of 32.

Q. Okay. And did Marathon offer that alternative in hopes that it could help resolve the dispute between the operators here today?

A. Marathon proposed those plans to BTA hoping that it would elicit a conversation about Marathon operating one-and-a-half mile.

Q. Okay. And so Marathon at all times has been okay with the development on a mile-and-a-half basis within this area, correct?

A. Correct.

Q. But Marathon's -- one of Marathon's objections to BTA's development plan has been the well placement and the number of wells that BTA has proposed to develop the area, correct?

A. Correct.

Q. And we'll get more into those spacing and well-placement concerns with later witnesses. Is that

your understanding as well?

A. Yes.

Q. Okay. In addition to amending the application in Case Number 16076 to allow for longer laterals, did Marathon also update its application to request pooling for all of the Wolfcamp wells which were discussed during the April 24th hearing?

A. Yes.

Q. Okay. So all of the wells that Marathon currently plans on drilling within the proposed spacing units have been specifically listed in its pooling applications, correct?

A. Correct.

Q. In total, how many Wolfcamp wells are now listed in Case Number 16076?

A. Seven.

Q. Seven.

And do those wells include the 11H well, the 12H well, the 14H well, the 16H well, the 17H well, the 18H well and the 20H well?

A. Yes.

Q. Okay. Marathon is also seeking pooling for several Bone Spring wells in Case Number 16077 and 16300, correct?

A. Correct.

Q. And Marathon is similarly seeking an alternative for mile-and-a-half development in its Bone Spring applications, right?

A. Correct.

Q. If you could please turn to what has been marked as Exhibit S, as in Sam, in the packet in front of you, I wanted to look at this exhibit to help provide a visual aid as to where the wells are located. Could you please explain to the hearing examiners where Marathon's wells are going to locate within the proposed spacing units?

A. Marathon wells are depicted -- the Wolfcamp spacing unit will be in that yellowish-colored band, and the Bone Spring be in the green. It's also in the development state -- or phase on what we're going to drill. So we're going to drill the four-well pad first. That will eliminate all the depth-severance concerns and also Marathon's concern about codevelopment in Bone Spring and Wolfcamp.

We'll do the second -- second development phase, which we'll infill in the Wolfcamp, and then the third development stage is the Upper -- the 2nd Bone Spring wells.

Q. And what are the Bone Spring wells listed on this diagram in the proposed spacing units?

A. They are the 13H, the 19H and the 15H.

Q. And does Exhibit A list all of the wells that Marathon has put into its applications?

A. Yes.

Q. Could you please turn to the next exhibit, Exhibit T, as in Tom? And this exhibit contains several different pages. If you could please look at the first page of this exhibit and identify what this document is.

A. This is a preliminary C-102 plat for the Zeus Federal 11H -- WD 11H.

Q. And is the pool and a pool code identified for this well?

A. Yes.

Q. And is this the same pool and pool code that was discussed during the April 24th hearing?

A. Yes.

Q. Has this preliminary C-102 been updated in order to reflect the alternative spacing unit that's been proposed by Marathon?

A. Yes.

Q. And if you could please turn to the second page of this exhibit, is this similarly a C-102 for the 12H well, which reflects increased spacing unit to contain 480 acres more or less?

A. Yes.

Q. And can you please turn to the next page? Is this document a preliminary C-102 for the 14H well, which likewise reflects the alternative proposed spacing unit for that well?

A. Yes.

Q. And, again, the pool and pool code information for these wells has not changed since the prior hearing?

A. No.

Q. And if you could turn to the next page, is this the preliminary C-102 for the 16H well?

A. Yes.

Q. Okay. And, likewise, updates were made to this plat in order to show the different spacing unit, correct?

A. Correct.

Q. And if you could turn to the next page, is this the updated C-102 for the 17H well?

A. Yes.

Q. And, again, this C-102 has been updated to show the changes made to the proposed spacing unit?

A. Correct.

Q. If you could turn to the next page, does this contain a C-102 for the 18H well?

A. Yes.

Q. And similar changes were made to this document?

A. Correct.

Q. And could you please turn to the next page, is this the preliminary C-102 for the 20H well?

A. Yes.

Q. And were similar changes made on this diagram?

A. Yes.

Q. And that concludes these C-102s. Are these all of the revised preliminary C-102s for the Wolfcamp wells?

A. Yes.

Q. Okay. If you could turn to the next exhibit, Exhibit U, as in umbrella, and I want to focus on the first page of this exhibit. Could you please identify what this document is?

A. This is a preliminary C-102 for the Zeus Federal SB 13H.

Q. Okay. And does this C-102 identify a pool code and a pool name that the well will develop?

A. Yes.

Q. And what is that?

A. It is the Culebra Bluff, South; Bone Spring. It is Pool Code 15011.

Q. And does this preliminary C-102 reflect proposed footages for this well?

A. Yes.

Q. And this is a preliminary C-102 that has not yet been filed with the district office, correct?

A. Correct.

Q. Right here, the first take point -- I want you to look at the first take point and the last take point shown on this preliminary C-102. Is it Marathon's intent to change these first and last take points to reflect the new setback requirements in the horizontal well rule?

A. Yes.

Q. Okay. So Marathon is going to amend these take points before it files the C-102 so it can take advantage of the 100-foot setbacks?

A. Yes.

EXAMINER BROOKS: Which apply to the Bone Spring?

MS. BRADFUTE: Yes, which apply only to the Bone Spring.

Q. (BY MS. BRADFUTE) And this C-102 is for the 13H well, which is in the Culebra Bluff, South; Bone Spring, correct?

A. Correct.

Q. Would you please turn to the next page within this exhibit and identify what this document is?

A. This is the preliminary C-102 for the Zeus

Federal TB 15H.

Q. And, likewise, is this well located within the same Bone Spring Pool?

A. Yes.

Q. And does Marathon intend to amend the first and last take points before filing this C-102 so that the setback requirements for those points are 100 feet from the boundary?

A. Yes.

Q. And if you could turn to the next page, is this a preliminary C-102 for the 19H well?

A. Yes.

Q. And is this well going to be drilled within the same Bone Spring Pool?

A. Yes.

Q. And does Marathon likewise intend to modify the footage for the first and last take points for this well before it files the C-102?

A. Yes.

Q. Mr. Rice, if you could please turn to Exhibit B --

EXAMINER BROOKS: How many total Bone Spring wells do you plan to --

THE WITNESS: We have three proposed right now.

EXAMINER BROOKS: Okay. And those are which wells?

THE WITNESS: Go to Exhibit S. It would be the 13H, the 19H and the 15H.

EXAMINER BROOKS: 13H, 19H and the 15H.

THE WITNESS: Yes, sir.

EXAMINER BROOKS: Thank you.

Q. (BY MS. BRADFUTE) So, Mr. Rice, in total, Marathon has proposed to drill three Bone Spring wells, correct?

A. Correct.

Q. And seven Wolfcamp wells, correct?

A. Correct.

Q. But all of these wells will be drilled in various subformations within the Bone Spring and the Wolfcamp?

A. Correct.

Q. Okay. If you could please now look at Exhibit V, as in Victor. Mr. Rice, what does this document contain?

A. This is a lease tract map for the west of half of 29 and the northwest quarter of 32 depicting the fee, state and federal tracts that would be in this pool.

Q. Okay. And we heard testimony this morning from BTA that BTA does own the majority of the interest

within this proposed spacing unit, correct?

A. That is correct.

Q. And Marathon does not dispute the fact that BTA owns the majority of the interest in this matter?

A. Does not dispute that.

Q. Okay. Marathon nonetheless is interested in pursuing development plans within this acreage even though it owns less of the working interest, right?

A. Yes.

Q. So it's willing to take on the risk to pay for operations in the event the majority working interest owner goes nonconsent --

A. Correct.

Q. -- and develop a plan?

A. (Indicating.)

Q. If you could please turn to the next page within this exhibit and identify what this document is.

A. This is a lease tract map for the west half-west half of the Bone Spring pool depicting the fee, federal and state tracts within that pool.

Q. Okay. And could you please -- and this lease tract map applies to the 15H well?

A. Yes.

Q. Could you please turn to the next page and identify what this diagram shows?

A. It's a lease tract map. It shows the east half of the west half of 29 and the east half of the northwest quarter of 32. It would be the other Bone pool showing the fee, federal and state tracts within that pool.

Q. Okay. And this will be the proposed spacing unit for the 15H well?

A. The 15H? 19.

Q. The 19H. Thank you.

A. Or 15H, whichever.

Q. 19H and 15H. There are two wells within this proposed spacing unit? We may have it -- it's been a long day.

MR. FELDEWERT: Go to --

MS. BRADFUTE: Yeah. It is.

Q. (BY MS. BRADFUTE) This is the proposed spacing unit for the 19H and the 15H, correct?

A. Correct.

Q. And, likewise, for each of the proposed Bone Spring spacing and proration units, Marathon does not own a majority of the working interest, correct?

A. That is correct.

Q. But it's willing to take on the risk of operating within these sections because it feels it has a superior development plan?

A. Correct.

Q. If you could please turn to Exhibit W, and before we look at this exhibit, I have a few questions.

Mr. Rice, what interests do you seek to pool under your applications?

A. All uncommitted interests.

Q. And are the parties who you are seeking to pool in the Bone Spring Formation -- who are those parties, actually?

A. The only uncommitted interest is BTA.

Q. Okay. So the only other working interest owner in the proposed spacing units is BTA?

A. Correct.

Q. And is Marathon also seeking to pool overriding royalty interest owners?

A. Yes.

Q. And what efforts has Marathon made to obtain voluntary joinder within the Bone Spring spacing units that have been proposed?

A. BTA and Marathon have been communicating about this project for quite a while.

Q. And who was the first operator to propose wells within the Bone Spring Formation?

A. Marathon.

Q. And you were here earlier for testimony and

heard testimony from BTA's landman Ashley Beal?

A. Uh-huh.

Q. Do you recall Ms. Beal testifying that after Marathon submitted its well proposals to BTA, BTA's response was to file compulsory pooling applications for the Bone Spring Formation?

A. Yes.

Q. Is that also your recollection of what occurred?

A. I believe we started some negotiations, but more or less, yes, I believe so, some trade negotiations, more or less.

Q. In your opinion, has Marathon engaged in a good-faith effort to try to obtain voluntary joinder within the proposed Bone Spring spacing units?

A. I believe we've made a good-faith effort to work with BTA and initiate some trade-outs, but ultimately they did not come to fruition, so that's why we're here.

Q. And during the April 24th hearing, there were many different trade offers and purchase offers and attempts to resolve this dispute that Marathon made to BTA, correct?

A. Correct.

MS. BRADFUTE: And I would like to just

incorporate that testimony into the record since it has been talked about today.

Q. (BY MS. BRADFUTE) Mr. Rice, if you could look at Exhibit W, is this a copy of a well-proposal letter sent on June 4th, 2018 to BTA which reflects all of the wells that Marathon has now proposed in its amended applications?

A. Yes.

Q. And in this well proposal, did Marathon provide the ability to either elect or not elect in each one of the -- in each well that's being proposed?

A. Yes.

Q. And along with this well-proposal letter, did Marathon submit a separate AFE for each of the wells that are being proposed?

A. It did.

Q. Okay. Could you please turn to Exhibit W1? Is this document the AFE for the Zeus Federal 23-28-29 WB 11H well?

A. Yes.

Q. And could you please identify the costs provided within this AFE for completing, equipping and drilling the well?

A. The total cost for this well is $4,800,000, and the completion costs are 4 million -- $4,479,000.

Q. And could you please turn to the second tab in this exhibit? This the AFE for the 12H well?

A. Yes.

Q. Could you please identify the estimated costs for completing -- for drilling, completing and equipping this well?

A. The total cost, 8,400,000; completion cost, 4,974,000.

Q. Could you please turn to Tab 3 of this exhibit? Is this the AFE for the 13H well?

A. Yes.

Q. Could you please identify what the estimated costs are for drilling, completing and equipping this well?

A. Total cost, 8,163,000; completion costs, 4,974,000.

Q. And could you please turn to Tab 4 of this exhibit? Is this the AFE that Marathon sent out for the 14H well?

A. Yes.

Q. And within this AFE, did Marathon propose costs for drilling, completing and equipping the well?

A. Yes.

Q. Could you please provide those costs to the hearing examiners?

A. Total cost, $8,400,000; completion costs, $4,974,000.

Q. And could you please turn to Tab 5 of this exhibit? Is this the AFE that was sent out for the 15H well?

A. Yes.

Q. And does this AFE contain estimates for drilling, completing and equipping the well?

A. Yes. Total cost, $8,144,000; completion cost, $4,974,000.

Q. Could you please turn to Tab 6 of this exhibit. Is this the AFE for the 16H well?

A. Yes.

Q. Could you please identify the cost for drilling, completing and equipping the well for the record?

A. Total cost, 8,400,000; completion cost, 4,974,000.

MR. FELDEWERT: Mr. Examiner, I would stipulate that Exhibit W contains all the AFEs that were sent.

MR. BRUCE: So will I.

MS. BRADFUTE: Okay. If it's acceptable to the hearing examiner -- in the past, some examiners have had a preference to have these numbers in the record.

EXAMINER BROOKS: Unless there are some that are materially discrepant than those you already read, I see no --

MS. BRADFUTE: Okay. That sounds good to me.

EXAMINER JONES: The Bone Spring costs were real similar to the Wolfcamp costs. I guess you're going to talk about that later. In other words, 16 --

MS. BRADFUTE: No. Those are the ones that we're directly at right now.

EXAMINER JONES: Okay.

EXAMINER BROOKS: Okay. If it's wrong, you can just go ahead and read them.

EXAMINER JONES: No, no. There's already -- those already came out.

EXAMINER BROOKS: Okay.

EXAMINER JONES: We're fine.

Q. (BY MS. BRADFUTE) Okay. Then we will move on.

Mr. Rice, in your opinion, are the costs contained in the AFEs in Exhibit W in line with the estimated costs to drill wells to these lengths and depths within this area of New Mexico?

A. Yes.

Q. And in Marathon's experience, are these costs reasonable?

A. Yes.

Q. Now, Mr. Rice, has Marathon staked the locations for the mile-and-a-half laterals that it's proposed in its amended application and the application ending in 300?

A. We have staked all wells and done our BLM on-site, and we have the documents ready to submit for APDs.

Q. Okay. And has Marathon also been in communication with the BLM about the need to get these permits quickly --

A. Yes.

Q. -- for the wells?

A. (Indicating.)

Q. And the on-site has been completed?

A. It was completed on January 5th -- I mean July 5th.

Q. And did the BLM indicate any issues with the proposed locations?

A. No. We also have a preliminary SUA with the surface owner.

Q. Okay. You have a preliminary --

A. Surface-use agreement.

Q. -- surface-use agreement in place?

A. Uh-huh.

Q. Does Marathon believe that it'll be able to obtain approved permits from the BLM in order to timely drill the Lower Wolfcamp wells?

A. Yes.

Q. Yes? Okay.

And in doing so, does Marathon believe it'll be in a position where it has approved permits very early on in 2019?

A. Yes.

Q. Has Marathon executed a saltwater disposal agreement for produced water from the wells?

A. Yes.

Q. Under the terms of that agreement, has Marathon been able to significantly lower its estimated disposal costs for the proposed spacing units?

A. We have.

Q. Has Marathon entered into third-party agreements to transport gas and oil by pipeline from the proposed spacing units?

A. Yes.

Q. And has Marathon entered into purchase agreements to sell its production from the proposed spacing units?

A. Yes.

Q. If you could -- actually, I'm not going to go

through that.

Mr. Rice, in your opinion, who should be appointed as the operator of the wells?

A. Marathon Oil Permian.

Q. And do you have a recommendation for the amounts which Marathon should be paid for supervision and administrative expenses?

A. We are seeking $7,500 for a drilling well and $750 a month for a producing well.

Q. And do you recall what the administrative expenses and supervision expenses are that were quoted by BTA for its one-and-a-half-mile wells?

A. I believe BTA is asking for $8,000 a month for a drilling well and a month for a producing well.

Q. So Marathon's proposed costs that it's offered to BTA are lower?

A. Yes.

Q. Are Marathon's proposed costs equivalent to the costs normally charged by Marathon and other operators within this area for horizontal wells drilled to these lengths and depths?

A. Yes.

Q. Is Marathon requesting that these rates be adjusted periodically provided for under the COPAS accounting procedure?

A. Yes.

Q. Does Marathon request the maximum cost plus 200 percent risk charge if any pooled working interest owner fails to pay its share of costs of drilling, completing and equipping the wells?

A. Yes.

Q. Were the parties you are seeking to pool notified about today's hearing?

A. Yes.

Q. If you could please turn to Exhibit X, does Exhibit X contain an affidavit prepared by your counsel confirming that notice was provided to all affected parties?

A. Yes.

Q. And is it your understanding that under the new horizontal well rules, notice to the offset owners no longer needs to be considered?

A. That is my understanding, per the new horizontal well rules. Yes.

Q. Did Marathon provide notice to offsets because these applications were filed before those rules went into effect?

A. Yes.

Q. Did Marathon also provide notice to the overriding royalty interest owners within the proposed

spacing units?

A. Yes.

Q. And has it used the best address information that it had in its possession, including address information provided by BTA during the April 24th hearing?

A. Yes.

Q. If you could look at the last page -- last four pages -- three pages or so of this exhibit, do these pages contain two different affidavits of publication from the "Carlsbad Current-Argus" that also confirms notice was provided via publication in the newspaper?

A. Yes.

Q. And were Exhibits R through X prepared by you or under your supervision or compiled from company business records?

A. Yes.

Q. And, Mr. Rice, in your opinion, will the granting of Marathon's application be in the interest of conservation and the prevention of waste?

A. Yes.

MS. BRADFUTE: I'd like to move the admission of Exhibits R through X into the record.

EXAMINER JONES: Any objection to R through X?

MR. BRUCE: No.

MR. FELDEWERT: No, sir.

EXAMINER JONES: Exhibits R through X are admitted.

(Marathon Oil Permian, LLC Exhibit Letters R through X are offered and admitted into evidence.)

MS. BRADFUTE: That concludes my direct examination.

EXAMINER JONES: Who wants to go first?

CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Chase, Marathon has a number of contested pooling cases before this Division, correct?

A. Possibly, yes. I don't know. I work certain areas. Other ones --

Q. You're contesting operatorship with COG?

A. They're contesting our operatorship. You're talking about the Dobro?

Q. Yeah. What's your -- for the Dobro?

A. Our proposal? We're at 50 percent.

Q. And their proposal?

A. Their proposal -- their two-mile proposal, they're probably like 25 or 30 percent.

Q. And are you contesting operatorship with

Mewbourne?

A. In the Creedence proposals?

Q. I don't know. Are you contesting operatorship with Mewbourne?

A. I mean, which proposal? Any of them?

Q. Yeah.

A. We are -- we have a competing proposal with Mewbourne --

Q. I think at the last hearing, you testified that Marathon prefers to be an operator even when you have a minority interest.

A. Marathon prefers to be an operator when it thinks the development plan -- we have the best development plan.

Q. Even when you have a minority interest?

A. If that's the case, yes.

Q. Okay. And in this case where you think you have a superior development plan -- I'm looking at Exhibit W, and you have your ten wells there; is that right? Your --

A. Ten-well proposal, yes.

Q. And that -- if I -- on average, the well costs for each one of those is, what, 8 to 8-1/2 million?

A. Yes, sir.

Q. So if I multiply that by 10, what do I come up

with?

A. About 85 million.

Q. I'll give you that. I think that's right. 85 million. Do you know what 70 percent of that would be?

A. About 56 spoon [sic; phonetic].

Q. Somewhere around there, right, would be about the correct number?

(The court reporter requested clarification of the answer and requested the witness speak slower and louder.)

A. 56 million, I believe.

Q. 56 million that BTA would have to come up with under your plan?

A. If they wanted to participate in every well, yes.

Q. And I think at the last hearing, you testified that BTA's proposed wells -- certainly not as many as you have. But their proposed wells alleviate the lease issues?

A. Their deep wells would alleviate the depth-severance issue? Yes.

Q. Okay.

A. Assuming they drill it at the right time.

Q. And have you looked at your lease?

A. My Pardue lease?

Q. Yeah.

A. Uh-huh.

Q. Okay. Are you familiar with the continuous obligation clause?

A. It has a 120-day clause.

Q. So it's not 60? It's not 60, right?

A. It's not 60.

Q. It is 120 days.

A. For drilling.

Q. Okay.

A. You've got to take it in the whole context at least, right?

Q. Now we've got it figured out. So that's --

A. Well, we've got -- I think Mr. Brooks said, Let's let the lawyers figure it out. But it's 120 days.

Q. But you've looked at it and it's 120?

A. Continuous clause -- continuous development clause, Pugh clause, for that lease is 120 days.

Q. Just like BTA?

A. Their leases, because I can only find the --

Q. Okay. You were here when Ms. Beal testified it's 120 days?

MS. BRADFUTE: Object to form. I don't think she gave the days.

(The court reporter stopped the proceedings and requested the parties not speak at the same time.)

THE WITNESS: 120 days.

Q. (BY MR. FELDEWERT) Okay. We've got that figured out.

EXAMINER BROOKS: Yeah. Everybody is trying to talk fast to get through with this hearing, but that can be counterproductive.

Q. (BY MR. FELDEWERT) Now, you haven't -- you don't have any pads built for any of the wells?

A. No, sir.

Q. And you haven't filed any drilling permits?

A. No, sir. We don't have the right to until we have operatorship.

Q. You didn't even file for your proposed one-mile wells?

A. No.

Q. And you're drilling north to south?

A. That is correct.

Q. For all of your wells?

A. That is correct. Yes, sir.

Q. And you said you have --

A. Sorry. I believe the one-mile wells were south to north. The surface hole was south to north, but the

half mile is north to south -- or north to south.

Q. So you changed your proposal, then, to drill from north to south?

A. The surface-hole location is north to south.

Q. Okay. And I think you mentioned that you have what you called a preliminary -- or a SUCA in place, a surface-use agreement?

A. Yes. We have contact with the surface owner --

Q. (Indicating.)

A. We contacted the surface owner and have a preliminary agreement in place, and we want to execute on it.

Q. What do you mean by a preliminary agreement?

A. We have -- we want to put a surface pad -- surface pads here, and the surface owner has tentatively agreed with that.

Q. Who is that?

A. Pecos [phonetic] Irrigation Company in Eunice, but I'm not -- the surface crew handles that stuff.

Q. But you don't have a surface-use agreement in place?

A. There is no signed surface-use agreement in place that I'm aware of.

MR. FELDEWERT: That's all the questions I have.

EXAMINER JONES: Mr. Bruce?

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Just following up on Mr. Feldewert's question, you said you're in contest over operatorship with Mewbourne?

A. Yes.

Q. And COG?

A. Yes.

Q. And also Matador?

A. Yes. There is one.

Q. And also Ascent Energy, out of Denver?

A. It's not my area, but I think that sounds right. Is that in Lea County?

Q. Lea County.

You handle Eddy?

A. I just do part of Eddy. Yes.

Q. And in which of those does Marathon own the majority working interest?

A. Let's see. So like I said, Concho, the one I think you're talking about, the Hambone proposal, we had a mile proposal, and we were 50 percent. Concho sent a competing proposal of two miles, so we were diluted down to about 25 percent. So there is that issue.

If you're talking about Mewbourne's

Creedence wells, their proposal was a working interest unit area, and our working interest in the area was a lot smaller. But in our two-mile plan, we have 22 percent and Mewbourne has 17 percent working interest.

And then the Matador ones you're referring to, I think, is their Larry Wolfisch, and we have the Gladius, and we have the Maximus Federal two-mile well.

Q. Right.

A. I think we have 50 percent, but it's --

Q. Depends on the --

A. That's not my project, so I just kind of know about it.

Q. I won't press you further on it. Thank you.

EXAMINER JONES: Mr. Brooks?

EXAMINER BROOKS: No questions.

EXAMINER JONES: No questions?

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. In the last hearing, there was -- 16076 was continued for a month because of two green cards. But you had to renotice everything anyway?

A. Correct.

MS. BRADFUTE: We did.

Q. (BY EXAMINER JONES) And those two green cards, did you have trouble getting those two people back the

same --

MS. BRADFUTE: Mr. Examiner, we did not get those green cards back, if I remember right. We did continue the case to another docket date, and I don't remember the specific date off the top of my head. But during that continuation, we did present an Affidavit of Publication from the "Carlsbad Current-Argus" perfecting notice on those original applications.

EXAMINER JONES: Okay. Did you do a newspaper notice this time? You did.

MS. BRADFUTE: Yes, we did.

EXAMINER JONES: You did a newspaper notice?

MS. BRADFUTE: Yes, we did.

Q. (BY EXAMINER JONES) And last time, you were saying 7,000, 700. Now you're saying 7,500 and 750. Is that --

A. From a mile to a mile and a half.

Q. Oh, okay. Gotcha.

And these overrides, you're listing them as pool parties; is that correct?

MS. BRADFUTE: That is correct.

EXAMINER JONES: Okay. Just to make sure.

Q. (BY EXAMINER JONES) Okay. No land situation has changed, except you got -- it's gotten more

complicated now because you've got those two federal quarter-quarters and those other two state quarter-quarters. So now you've got to do your com agreements.

A. There is some extra land work that needs to be done. Yes.

Q. Are you the guy who does all those com agreements?

A. I have to type them out and get them signed. Sure.

Q. And then I guess if everything works out, you'd be renaming the wells to have "com" on the end of them?

A. Yes, sir.

Q. So are there any issues with the surface locations to the north?

A. We've staked the wells, done a BLM on-site, contacted the surface owner, so we're very confident we're not going to have an issue getting surface.

Q. It's a preliminary now, but you're pretty sure you can get it?

A. We are working it as if we were going to drill it as soon as we can. And we know that BTA has an April 19th expiration date, and we'll be able to drill our first phase, we feel, before that begins and alleviate the issues.

Q. Okay. So I guess I've got to make sure which wells -- which Wolfcamp wells, because the one on 16076, which is the amended Wolfcamp application, it's a -- it lists -- in the ad, it lists -- it lists three wells.

MS. BRADFUTE: Will, I had sent updated notices, and they were in the last docket. But in the July 12th docket, those updated notices reverted back to the original notice, not the amended the notices.

EXAMINER JONES: Gee, I wonder who did that docket (laughter).

MS. BRADFUTE: And I was out on vacation. So I apologize.

EXAMINER JONES: Because someone was in Ireland.

We definitely got all six wells.

MS. BRADFUTE: That's right. And we did publish using the alternatives. So there was the publication where it talked about the one-mile well names, and the mile-and-a-half was granted -- the mile-and-a-half-long-lateral well names, which includes "federal" in them.

Q. (BY EXAMINER JONES) Okay. And you guys went over all your drilling cost estimates?

A. Correct.

Q. And those -- some of those looked real similar

between dry-hole costs -- or I guess you list dry-hole costs, and they were exactly the same?

A. So my understanding is the drilling costs really don't change with the longer lateral. The increase in the completion cost is due to more fracs, right. So that's my understanding. But I'm just a landman, so --

Q. Okay. Okay. Well, that sounds -- that's good. I don't have any more questions.

EXAMINER JONES: Any more redirect for this witness?

MS. BRADFUTE: I would like to move along and call my next witness.

TUCKER KEREN,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. BRADFUTE:

Q. And, Mr. Keren, starting with the exhibit packet in front of you, I want to make sure you're looking at the right packet.

A. Yes.

Q. Could you please state your name for the record?

A. Tucker Keren.

Q. And, Mr. Keren, who do you work for?

A. Marathon Oil.

Q. And what are your responsibilities at Marathon?

A. I'm a development geologist responsible for Eddy County, New Mexico.

Q. And have you previously testified before the Division?

A. I have.

Q. And were your credentials accepted and made part of the record?

A. Yes.

Q. Are you familiar with the applications filed by Marathon in Case Numbers 16076, 16077 and 16300?

A. I am, yes.

Q. Are you familiar with the applications filed by BTA in Case Numbers 16024, 16161 and 16162?

A. Yes.

Q. Are you familiar with the status of the lands which are the subject matter of these applications?

A. Yes.

Q. Are you familiar with the drilling plans for the proposed wells?

A. Yes.

Q. And have you conducted a geologic study of the area embracing the proposed spacing units?

A. Yes, I have.

MS. BRADFUTE: I'd like to tender this witness as an expert in petroleum geology matters.

EXAMINER JONES: Any objection?

MR. FELDEWERT: No objection.

MR. BRUCE: No objection.

EXAMINER JONES: Can you spell your last name?

THE WITNESS: K-E-R-E-N.

EXAMINER BROOKS: E-N?

THE WITNESS: E-N.

EXAMINER JONES: He is so qualified.

Q. (BY MS. BRADFUTE) Mr. Keren, can you please turn to Exhibit R, and could you please first look at the map that's rolled out in front of you?

And there is a map in front of opposing counsel and one in front of Mr. Brooks.

Is the map that's rolled out in front of you the same map that's shown in Exhibit R?

A. Yes, it should be. I prepared two maps with the same content just at different scales. This one in Exhibit R is focused on the project area and some of the neighboring sections around there. So it really only includes Townships 23S-27E, 23S-28E and a few of the sections to the south.

Q. Okay. So Exhibit R has additional sections; it's a larger-scale view --

A. Yeah. The one that's --

Q. -- than the map you have in front of you?

A. -- that's below --

Q. Is the bigger map?

A. Is the -- is the bigger map. And that's exhibit -- that's a later exhibit.

Q. Okay. We'll turn to that in a little bit.

What I'd like to do is look at the zoomed-in map that's rolled out in front of everybody. This is a map that you have prepared, correct?

A. Correct.

Q. Could you please help us understand what is shown on this bigger map and walk through what's depicted?

A. Sure.

So what I've tried to do on this map is to try and provide some clarification for the current status of many of Marathon's wells in this area, especially because anybody trying to obtain this status information from public data sources is going to have a lag of several months. So Marathon, for the purposes of this hearing, is willing to share with the Examiners and the rest of the parties here the current status of all

the wells that we have drilled in this area and also where the locations of some of our permits are.

And so the first thing that I wanted to point out is that Marathon's drilled wells are going to be in the Bone Spring and the Wolfcamp Formation, is what I've colored them by here. If they're solid lines, that means that they have been drilled and completed. So these are wells that are on production as we speak today. If they are dashed lines, those are going to be wells that are drilled and uncompleted. So drilling operations have been completed already. The rigs have moved on to elsewhere, and now these wells are just waiting for the frac crew to come and complete them.

And so what you can see is that in this area, just around the project area alone, Marathon does already have Wolfcamp and Bone Spring wells on production, including some that are less than three miles away. So if you look in the Section 2 of 24S-27E -- so this is about two miles or so southwest of the project area -- you'll see some wells labeled "El Presidente." Those are wells Marathon has drilled and completed and are on production, as we speak to today, from the Bone Spring and the Wolfcamp Formation. And these are wells that were simultaneously completed in those zones.

Q. I just want you to pause right there. So these are wells where Marathon simultaneously completed within the 3rd Bone Spring and the Upper Wolfcamp Formation?

A. That is correct.

Q. Okay. And do these wells have an analogous spacing pattern to the Upper Wolfcamp and the 3rd Bone Spring sands that are being proposed in these cases that we're hearing today?

A. Yes. It is an identical spacing pattern.

The other area that I want to call out is in the upper, left corner of this map where you can see there is a high density of wells that Marathon has drilled and completed in both the Wolfcamp and the Bone Spring Formations.

And so there's been a lot of discussion in the previous testimony from BTA about Marathon's area of experimentation where we have 100 percent working interest. That area is not the project area that we are discussing today. I would argue that Marathon's experimentation has already taken place in that area, in the upper, left corner of this map, where we do have extremely high working interest and we've done our own science and engineering tests to try to understand the correct spacing for wells in the Wolfcamp and the Bone Spring Formations.

Q. Thank you, Mr. Keren.

Now, I'd like to you look at Exhibit R. And it's actually -- you do have the next map right underneath the map that we were just looking at, if people want to look at a bigger version. And explain what this map shows to the hearing examiner.

A. So this is zoomed out a little bit of ways, and I did try to make this inclusive of a few more townships. But we're showing mostly the same data --

MR. FELDEWERT: Can I stop you right here? So I'm looking in my notebook at Exhibit R.

MS. BRADFUTE: Yeah.

MR. FELDEWERT: Is there a second page?

MS. BRADFUTE: So no. I wanted everyone to look at the big map on top first.

MR. FELDEWERT: So there's a big map --

MS. BRADFUTE: A big map is another exhibit here, Mike.

MR. FELDEWERT: Oh, it is?

MS. BRADFUTE: Exhibit Y is the --

THE WITNESS: Yeah. This is Exhibit Y (indicating).

EXAMINER BROOKS: The one we were looking at --

MS. BRADFUTE: It was Exhibit R, the one we

were looking at.

This is Exhibit Y (indicating).

EXAMINER BROOKS: Thank you.

THE WITNESS: Yeah. We were looking at R, and I've just printed out a larger version here for ease of the eye here.

But this is -- this is the true Marathon activity map that matches nearly extensive the map that Mr. Charuk presented earlier. So he showed sparse drilling activity and a few permits that he was able to obtain from a publicly available data set. But this is truly Marathon's activity map, as we sit today, in this area around the Zeus or Ogden project area. And so you can see there is an abundance of wells that are drawn in solid lines. So those are wells from the Wolfcamp and the Bone Spring Formation that are on production to date, including the 3rd Bone Spring Sand Formation, where in Eddy County alone, we already have six wells on production. So this is not an experiment in the Zeus project area to see what the production would look like.

Q. (BY MS. BRADFUTE) And in your opinion, has Marathon's codevelopment of the 3rd Bone Spring Sand in the Upper Wolfcamp Formation been successful?

A. Yes.

Q. And we'll talk about that more later.

Mr. Keren, at the April 24th hearing, you presented geologic testimony concerning the Wolfcamp Formation, correct?

A. Correct.

Q. And has that testimony changed significantly in any way?

A. No.

Q. Mr. Keren, what is the targeted interval in the Bone Spring cases, Case Number 16077 and 16300, involving the Bone Spring wells?

A. We have two targeted intervals, the 2nd Bone Spring Sand and the 3rd Bone Spring Sand.

Q. Okay. And it might be helpful if we turn to Exhibit S, as in Sam. Does this exhibit depict where the Bone Spring wells will be located in relation to Marathon's proposed Wolfcamp wells?

A. Yes.

Q. And could you please walk through this diagram and explain to the hearing examiners what it shows?

A. Sure.

So this is a cross-sectional look, what we sometimes call a gun-barrel diagram that shows the approximate targeted intervals within each of the formations, and I've broken it up by Bone Spring and Wolfcamp and included the well numbers on there for

assistance. And this is drawn completely to scale, so you can see the vertical separation and the lateral separation of the wells that we have proposed.

And it also shows how they fit with the wells that are in adjacent sections. So in the east half of Section 30, for example, Marathon has already drilled five wells, two in the Bone Spring and three in the Wolfcamp, and we are currently fracking three of those wells today.

Q. And so, Mr. Keren, just to confirm, the targeted interval for the Bone Spring wells at issue in these cases is going to be the 2nd Bone Spring and the 3rd Bone Spring?

A. Correct.

Q. If you could please turn to what's been marked as Exhibit Z, as in zebra, could you please identify what this document is?

A. This is a structure map on the top of the 3rd Bone Spring Sand Formation in subsea depths, and it's colored using warmer colors to indicate deeper -- deeper depths. And it's also drawn with respect to Marathon's acreage and the project area we are discussing today. You can see the contours approximately are trending in the north-south orientation, but there are some small inflections in the contours, especially right around the

project area.

I've also bolded all of the Bone Spring horizontal wells that have been drilled in the adjacent sections.

Q. And, Mr. Keren, when you were preparing this structure map, did you notice any faults or impediments within the area?

A. So it's difficult to identify faults using well data alone. I will admit that. However, when I see small inflections in my contours like I do on this structure map here, I start to get concerned about potential -- potential structural anomalies in the area. Because if everything was structurally quiet, I would expect my contours to be relatively straight and parallel to one another. However, that's not what I'm seeing here from using a lot of data points in this area.

And so when I see that, then I move to the seismic data that Marathon has, and we have 3D seismic all over this area. And looking at that, I did see some evidence for small displacement faults cutting through the Wolfcamp Formation and the 3rd Bone Spring Formation.

Q. And that is similar to the testimony that you presented during the April 24th hearing concerning the

Wolfcamp Formation, correct?

A. That's correct.

Q. What challenges do those small faults present to an operator when you are developing an area like this, from a geologic standpoint?

A. The largest challenge is to be able to keep your lateral well in your most optimal target for the entire length of a one-mile or one-and-a-half or even two-mile lateral. You want to keep your wellbore in your best quality reservoir at all times. And if you have small displacement faults, there is a chance that you could get thrown up or down a little bit in sections, and you'll have sections of the wellbore that are in suboptimal reservoir rock.

Q. Okay. Is that important when maybe you have TVDs of wells that are only separated by a few hundred feet in certain situations?

A. Yes.

Q. Did you also prepare a cross section of logs when you were putting together this structure map?

A. I did. And it's noted it A to A prime on this structure map, and the cross-section line is in yellow.

Q. And could you please turn to the second page of this exhibit and explain what this document shows?

A. This is the structure map now on the base of

the 2nd Bone Spring Sand Formation with all the same map elements as the previous map. You can see once again the structure is approximately north-south. The orientation of your strike direction dips down to the east. And you can see that the contours now are a little bit more parallel and uniform across this area. So just using the well data alone, you can see there is slightly less chance of structural anomalies in this area.

Q. If you could please turn to Exhibit AA and could you please discuss what that document shows?

A. This is my cross section from A to A prime showing the stratigraphy of the Bone Spring sands that we'll be targeting. At the top is the 2nd Bone Spring Sand where I've cartooned a lateral just to show where we're roughly planning to target our 13H and 19H wells.

And then at the base of the cross section is the 3rd Bone Spring Sand where we'll be targeting 15H well right at the base of that sand body. This is really just to show the lateral continuity across the project area of these -- of these sand bodies. And I think that -- geologically, I don't see any sort of evidence of pinch-outs or anything like that.

Q. And do you consider the wells that are included within these cross sections representative of the Bone

Spring Formation in the 2nd Bone Spring Sand and the 3rd Bone Spring Sand?

A. Yes.

Q. Will you please turn to Exhibit BB and could you please explain what that document is?

A. This is my gross interval isochore map on the 3rd Bone Spring Sand. So this is a thickness map just demonstrating that the thickness does vary a little bit in this area. I'm using 20-foot contours indicating thicker areas of the 3rd Bone Spring Sand. It orders on the order of tens of feet in this -- or changes on the order of tens of feet in this area. But across the project area, it'll be roughly 330 feet or so and should be consistent over the length of a mile-and-a-half-long lateral.

Q. And could you please turn to the next page of this exhibit and explain what this map shows?

A. This is my 2nd Bone Spring Sand isochore map using the same contour interval. Once again, it varies slightly in the area, thickening to the east. In the project area, it will be roughly 200 to 210 feet thick and relatively consistent over the length of the laterals.

Q. And, Mr. Keren, what conclusions have you drawn from your geologic study of this area?

A. The conclusions that I've drawn are that using well data alone, it's challenging to assess the faulting in the area. However, with our use of 3D seismic, we're able to see that there is potential for small displacements in some of our targeted wells in the Upper Wolfcamp, 3rd Bone Spring Sand, example, and that although there is -- there is evidence of some small displacement faulting, I don't see any evidence of pinch-outs, so there is still a presence of these sand bodies over the whole -- whole project area.

Q. Okay. And will each 40-acre proration unit -- I'm not sure that's the right term under the new horizontal well rule. But will each 40-acre tract be productive within the Bone Spring Formation within the respective spacing units?

A. Yes.

Q. And in your opinion, is horizontal drilling the more efficient method to develop the area?

A. Yes.

Q. And will each 40-acre tract contribute approximately equal -- equally to the development of each of the wellbores?

A. Yes.

Q. So I want to briefly focus on the different wells that are going to be located in Marathon's plan

versus BTA's plan. If you could turn to Exhibit CC in the packet in front of you, and could you please explain what that diagram depicts?

A. So this diagram is the side-by-side comparison of Marathon's development plans versus BTA's development plans. And using the same -- the same structure that I was showing earlier for Marathon's cross-sectional view of our development plan, I've now placed BTA's development plan in that same format so we can have side-by-side comparison. And then I've also laid out the development stages as we understand them for BTA, and I think we've gotten more clarity on that even today. But also comparing those to the way that Marathon plans to develop these in several phases of development.

And the final thing that I've included on this exhibit is a visual aid for understanding what the potential effect of depletion could be based on the order in which you develop the wells in this area. And so I've drawn a dashed circle around the wells that we know will be the first phase of development for both operators. So for Marathon, that's four wells. For BTA, that's two wells.

And then what I've done here is I've drawn these just to help us try to visually understand that

after we complete those wells, there is going to be a zone of depletion around them, and that's going to be both depletion of pressure and then depletion of fluids. And so it's critical to understand that effect of depletion so that if you do opt to come back in later and drill additional wells, whether that's in the Bone Spring or the Wolfcamp, if those wells are very close to one another vertically, then it's critical to understand that depletion effect.

I think Marathon's plan is strategically designed to minimize that effect of depletion. Whereas, BTA's development plan is not. Their 9H and 10H wells, specifically, are at risk of seeing the effect of depletion.

Q. I want to back up just a little bit and discuss what is meant by development stages in Marathon's portion of this diagram. You have three different development stages listed for Marathon's wells, correct?

A. Correct.

Q. And Marathon intends to drill these wells in three different stages, right?

A. Correct.

Q. But that is not necessarily the order that Marathon will complete these wells in, correct?

A. Not necessarily. Marathon has the option to

drill, for example, say, Development Stages 1 and 2 and then concurrently frac all of them, as we're basically building a mega pad to drill all of these wells from. So there will be separate rows of surface-hole location, but it won't be challenging for a frac crew to handle, say, for example, Development Stages 1 and 2 all consecutively.

Q. So Marathon is designing its completion and pad plans so it can go back in and frac Development Stages 1 and 2 simultaneously if it wanted to?

A. If not simultaneously, then immediately one after the other.

Q. During?

A. Yeah, during.

Q. Concurrently is how I've heard it described. Both ways?

A. Yeah.

Q. I want to talk a little bit about the depletion halos. The dotted circles that surround the wells on this diagram are just a visual aid to help us see there is depletion around those wells, correct?

A. Correct.

Q. It's not an actual measured -- where the fracs are going to deplete the area, correct?

A. No, it's not.

Q. So what information did you use to study how depletion would occur in this area?

A. So the information that we've used to study that is largely based on the wells that we've drilled and produced to date. And we've seen a lot of those on the maps that I've printed out and put in front of you. The other data that we have, though, that's extremely valuable is pilot-hole core and log data that we've collected just a couple of sections away.

So if we look back at our map and we were talking about 23S-27E, Section 9, where there is a high density of wells that Marathon has drilled, we also invested a large amount of money in drilling a pilot hole, collecting 400 feet of core and doing five runs of open-hole wireline logging and sidewall-core collection to try and understand all the geologic properties that go into the frac models that we've looked at today.

And so Marathon has built frac models that are based on those geologic inputs that are very close to this project area and that are consistent of geology that doesn't change very much from that Section 9 to where we are studying today.

Q. And we've heard a lot of testimony today about whether or not there is a mechanical barrier between the 3rd Bone Spring Sand and the Upper Wolfcamp Formation.

Is it your opinion that there is a sufficient frac barrier between those two formations?

A. It is my opinion that given the current completion style of most operators out here, including Marathon and BTA, that there is not a significant frac barrier between the 3rd Bone Spring Sand and the Upper Wolfcamp Formation.

Q. Why is that?

A. That's because -- well, lithologically, it may seem like there is a change in rock type between those reservoirs. There may not be a large enough stress barrier to hold back those fracs.

Q. Okay. So the analysis largely revolves around stress?

A. Yes.

Q. And why is stress important in analyzing stress?

A. Stress is important because while geology may look consistent on a log over many parts of the Delaware Basin, the pressures might be very different, and the way that that pressure profile changes with depth might be extremely different in different parts of the basin.

Q. Okay. So you really need to actually know the pressures that are involved in the immediate area that you're in --

A. Yes.

Q. -- in order to get a true orientation of the stress -- or idea of what the stress is going to be?

A. Correct. And stress is what entirely governs the way that the fractures that we are inducing in the subsurface will grow.

Q. Okay. And has Marathon obtained pressure data and information from the wells that it has now drilled and completed?

A. Marathon has significant pressure data. From each one of our wells, we do a diagnostic fracture injection test, and we get pore pressure data point at each one of those wells. We also collect dipole sonic logs from pilot holes and have even done microseismic studies in the area.

Q. Mr. Keren, is it your opinion that Marathon's development plans will result in the greatest amount of recovery from the proposed spacing units?

A. Yes.

Q. And in your opinion, will Marathon's development plans best protect correlative rights?

A. Yes.

Q. And in your opinion, will Marathon's development plan result in the reduction of the waste?

A. Yes.

Q. Have you reviewed BTA's development plans for the area?

A. Yes, I have.

Q. And BTA has obviously applied to pool the 9H and 10H wells, correct?

A. Correct.

Q. And based on testimony that we listened to earlier today, BTA intends to complete the 9H well and the 10H well sometime after completing its Upper Wolfcamp wells, correct?

A. That's how I understand it. Yes.

Q. Okay. Is the spacing proposed by BTA for those 3rd Bone Spring wells problematic if it's going to go back in and later complete those wells?

A. In my geologic opinion, it is. And what's concerning to me is both the lateral spacing that we look at just in this half section alone, their wells are only spaced about 330 feet apart. So that's very close and tighter spacing between the 3rd Bone Spring Sand and Upper Wolfcamp than we have seen in this area to date. And it's also -- with respect to the wells that Marathon has already drilled and we're fracking right now in the adjacent section immediately west, which includes two 3rd Bone Spring wells.

Q. And in your opinion, will the timing of BTA's

completion operations result in waste and unrecovered reserves from the 3rd Bone Spring Sand Formation?

A. Yes.

Q. And if you could, I'd like you to briefly talk about the concept of how fractures can grow asymmetrically when you have depletion in an area.

A. I'll touch on that just briefly. I think you will be going into more detail on that --

Q. With the engineer.

A. -- with the engineer.

But as we've testified and many people have testified today, fractures want to grow the path of least resistance. And a lot of times, that path of least resistance is governed by wells that have already been fracked and are on production nearby. And we've shown on a lot of our maps here that not only Marathon but Matador and Mewbourne have already drilled and fracked wells just around this project area. So we know there are already wells on production in the same formations, and so there is going to be a high likelihood that those wells will draw fractures in one direction preferentially.

Q. In your opinion, is Marathon's plan of development the most prudent way to proceed with development of the spacing units?

A. Yes.

Q. And in your opinion, should BTA's applications in Case Number 16024, 16161, 16162 be denied?

A. Yes.

Q. Mr. Keren, have you compiled and prepared Exhibits Y through DD from company business records and under your supervision and direction?

A. Yes.

MS. BRADFUTE: I'd like to tender those exhibits into the record.

EXAMINER JONES: Exhibits Y through DD, any objection?

MR. FELDEWERT: No objection.

MR. BRUCE: No objection.

MS. BRADFUTE: And that completes my direct examination.

EXAMINER JONES: Those are admitted.

(Marathon Oil Permian, LLC Exhibit Letters Y through DD are offered and admitted into evidence.)

EXAMINER JONES: Okay. Mr. Feldewert.

CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Keren, if I look at BTA's Exhibit Number 21 -- do you have that in front of you?

A. Yup.

Q. And you don't have to turn to it, but you had talked about your Exhibit CC. One of your Development Stage 1 wells is a 16H well?

A. That is correct.

Q. And that's in the same correlative zone as the BTA Ogden 7H and 8H?

A. Correct.

Q. And I believe at the last hearing, you provided exhibits and testimony that in your opinion, that that is an area that can be -- or a zone that can be efficiently and effectively developed with horizontal wells?

A. Yes.

Q. You didn't see any geologic impediments?

A. Correct.

Q. Likewise, that's an area that can be -- where the acreage, on average, will contribute more or less equally to the wellbore?

A. Correct.

Q. All right. Then we don't have any debate there. And we no longer have a debate about mile versus mile-and-a-half, right?

A. Correct.

Q. Didn't you and I have a little debate about

that?

A. Yeah.

Q. We've clarified that?

A. Yeah (laughter).

Q. Okay. Good.

Can you give me an estimate of the version -- the virgin reservoir pressure in the Wolfcamp Sand around the Ogden and the Zeus?

A. I have not studied that.

Q. I thought you just testified you had a lot of -- Marathon has pressure data for the area.

A. They do. That's not data that I typically work with on a day-to-day basis.

Q. So you haven't relied on that pressure data?

A. Relied on it for what?

Q. I mean utilized it for any of your opinions here today?

A. So I've utilized the derivative products of that pressure data. So I've sat in on many meetings and presentations in which engineers have shown us their -- the ways they have used that data to make development decisions in this area, and then that is work that I use to fold into my geologic development decisions.

Q. So you don't have any information on the pressure -- the virgin pressure data in this area?

A. I don't know those numbers off the top of my head.

Q. Okay. Now, when you were here last -- let's see. Which exhibit is that? The exhibit that shows your development, which exhibit was that?

MS. BRADFUTE: Exhibit CC or the map?

MR. FELDEWERT: The map.

MS. BRADFUTE: The map? The big map is Y.

Q. (BY MR. FELDEWERT) Why don't you turn to Exhibit Y for me?

A. Sure.

Q. Now, you have some development right next door in Section 30, right?

A. Correct.

Q. Okay. And in 20 and in 19?

A. Correct.

Q. And I think the last time you were here, you mentioned that they're in the east half of 30. You called that your Hermes wells?

A. That's correct.

Q. And that was according to your map of drilled but not completed?

A. Those completed right now because the MRO frac symbol there, and we have on our Exhibit CC -- or sorry. Excuse me. On the previous -- either way, they're

currently being completed.

Q. Okay. So we don't have any data from those wells yet?

A. Production data, no.

Q. All right. Then when I look at the east half of the east half of Section 30 here -- and maybe we should go to your Exhibit CC. Your development in the east half of Section 30 appears to be different from what it is in the west half of 29?

A. Yes, that is correct.

Q. The spacing is different.

A. The spacing is not different, actually.

Q. So where would I find the comparison of your spacing here?

A. Exhibit S.

Q. Exhibit S. Okay. Thank you.

Okay. So if I'm looking at this and I'm just focusing on the -- the Wolfcamp --

A. Okay.

Q. -- right, we have three wells in the east half of 30, and then you're proposing in the same correlative zone -- is it only two in the first phase for the west half of 29?

A. So in each of the correlative zones of that Wolfcamp section, Marathon's planning three wells per

section. So if you include the east half of Section 30 and the west half of Section 29, that comprises the equivalent of one section length -- or one mile in length, and then over that one mile, we have three wells planned in the Wolfcamp Sand and three wells per section in the Wolfcamp A.

Q. And then for the 3rd Bone Spring Sand, you have two over there in the east half of 30, but only one in the west half of 29?

A. But as we talk about spacing on a wells-per-section basis, that is the equivalent spacing because this is two half sections combined to equal three wells per section.

Q. So that's nine wells total?

A. Nine wells total.

Q. Per section?

A. In the 3rd Bone Spring Sand, the Wolfcamp Sand and the Wolfcamp A.

Q. That's what you-all believe is appropriate?

A. Correct.

Q. And that's what you would do here?

A. That is what we are doing here.

Q. Which then -- now, what is Marathon's ownership percentage in the east half of 30?

A. I do not know.

Q. Is it more than 30 percent?

A. Yes.

Q. Substantially more?

A. (Indicating.)

Q. You own a majority interest over there?

A. We own the majority interest over there.

Q. Okay. So with your spacing pattern, five of the nine wells are on the acreage that you own the most interest in, right?

A. Over this one mile, yes.

Q. And only four would be in the acreage where you have only a 30 percent interest?

A. Correct.

Q. Okay. So BTA, who owns 70 percent with respect to their correlative rights, is going to be diluted --

MS. BRADFUTE: Object to form. I'm not sure what this has to do with geology.

Q. (BY MR. FELDEWERT) The acreage that would be -- only have the four wells, that would be where BTA owns 70 percent, right?

MS. BRADFUTE: Object to form.

EXAMINER BROOKS: Seems to me he's just asking questions of fact that don't really call for opinions, so I'll overrule the objection.

MS. BRADFUTE: Okay. That is fine. You

can answer.

Q. (BY MR. FELDEWERT) So you have four wells?

A. Correct, four wells.

Q. So if we're looking at BTA's correlative rights based on your proposed spacing, most of the wells are going on the acreage where you have a majority interest, right?

A. Yes.

Q. Now, you mentioned in your Exhibit R that you have done some experimentation down in Section 2?

A. Correct.

Q. Southwest of the El Presidente wells?

A. Correct.

Q. Okay. Is that data somewhere in your exhibits?

A. That data is not in my exhibits.

Q. It's not?

A. No.

Q. Not in any of Marathon's exhibits here?

A. That's proprietary data that has not been released to the public yet.

Q. So the data that you're relying on to suggest that your spacing pattern is appropriate is proprietary?

A. Yeah.

Q. And you're not presenting that today?

A. We will present data from a different set of

wells today, not those wells.

Q. Chose not to submit that?

A. We chose a different set of wells.

Q. Okay. And then same thing. You mentioned -- up there in the upper, left-hand corner of this exhibit, you were talking about data that -- your experiment you've done up there, correct?

A. Correct.

Q. And you have data from that area?

A. That is correct.

Q. And you're not presenting that?

A. Marathon is 100 percent working interest over there and considers that to be proprietary data.

Q. Chosen not to present it?

A. Chosen not to present it.

Q. How long have you had the data in Section 2?

A. Section 2, we've had those wells on production now for several weeks.

Q. Several weeks.

And then what about the data that you don't want to present up there in Sections 9 and 16 on Exhibit R?

A. Different phases of development but going back greater than a year from now.

Q. More than a year?

A. More than a year.

Q. So with respect to your opinions here today, you're not relying on that data?

A. No. I've made it clear that with respect to my opinion on spacing and the way to appropriately develop those wells, I'm relying on the entire internal data set that Marathon has.

Q. But you chose to specifically point that out, but you don't want to share the data with the Division or us?

A. We've chosen a different set of wells to share with the Division.

Q. You mention in your exhibits -- when you were referring to your Exhibit Y, I think you said there were six wells that were on production?

A. Six 3rd Bone Spring wells.

Q. On production?

A. On production.

Q. And where are they located?

A. In Eddy County.

Q. Where?

A. Okay. The first one would be 23S, 27 East, Section 9. The second would be 23S-26E, Section 27. The third would be -- the third and fourth would be 24S-27E, Section 15; then 24S-27E, Section 2; 24S-28E,

Section 23.

Q. That's the nine?

A. That's the six.

Q. The six. I'm sorry. Thank you.

And have you presented -- how long have they been on production?

A. It changes. It's anywhere from -- they're all on production for several months.

Q. Several months?

A. Yeah. It's different.

Q. Has their production been recorded?

A. There are initial production results for those wells reported to the State.

Q. But have you subsequently submitted monthly production reports?

A. I don't know about submission of monthly production reports.

Q. Have you brought any of that data here today to support your opinions?

A. If that data is publicly available, then -- then BTA could access that as easily as we could. So --

Q. Have you brought it --

A. I did not, no.

Q. -- to support your opinions?

A. I'm sorry. For one of those 3rd Bone Spring

wells, we did. It will be in the later testimony.

Q. Which exhibit?

A. Am I allowed to go to exhibits that haven't been looked at yet?

MS. BRADFUTE: Yes, you can.

And, Mike, we will have an engineer, obviously, who is going to be testifying about the wells.

Q. (BY MR. FELDEWERT) Do you know which exhibit?

A. Yeah, I do. It's Exhibit DD.

Q. Exhibit DD.

EXAMINER BROOKS: DD?

MS. BRADFUTE: Yeah.

Q. (BY MR. FELDEWERT) That contains data for the 3rd Bone Spring?

A. Correct.

Q. For just one of the six?

A. Correct.

Q. Okay. Now, the data that you have up there for a year, has that been publicly reported?

A. Yes. That's data from a well drilled by BC Operating.

Q. I'm talking about data where you have the -- that you supposedly have the Upper Wolfcamp and the 3rd Bone Spring simultaneously completed.

A. Those wells have been on production for approximately six months or so now. So --

Q. Six months.

And has that data been reported?

A. Yes.

Q. Then when I looked at your Exhibit CC -- and I think you're fair here, right? You show that circle here as just for illustrative purposes?

A. Correct.

Q. So that's theoretical?

A. It is not a theoretical concept. Depletion is not a theoretical concept. What is theoretical is the exact shape of those circles.

Q. Okay. And do you have any data to support -- that you brought here today to support your circles that you've drawn on here?

A. Yes. That'll be from Exhibit DD in later testimony from the engineer.

Q. And that supports the circles as you've drawn them?

A. That supports the depletion effect.

Q. Okay. The depletion effect in general?

A. Correct. The circles are for visual aid to demonstrate where we would be introducing depletion from the first phases of development.

Q. My point is, though, you don't have any pressure data or pressure studies or fluid studies presented here today to support this radius of influence that you've put here on CC?

A. And as I've noted, it's for illustrative purposes.

Q. You mentioned that you have your development plan here on CC?

A. Correct.

Q. Okay. Can you -- put you to the same test. Can you tell us when you're going to drill these wells?

A. We will be drilling these wells first quarter of next year at least before April of 2019 to satisfy all lease expirations.

Q. Do you know when you're going to be drilling them?

A. I don't know the exact date that we would be drilling them. What I do know is the status now -- BLM on-site. We've staked the wells. We reached out to the surface-use owners, and we've contacted the BLM to let them know about that April 19th deadline.

Q. I'm going to press you like our witnesses have been pressed. You can't give us a date, can you?

A. I cannot give you an exact date.

Q. And by -- in turn, can you tell us when you

will be completing those wells?

A. We would come back to complete those wells depending on results that we see from open-hole logging in the deep 16H well because that would depend on where we land the 14H. This is all in the prior testimony from April.

Q. I gotcha.

You can't tell us because of all of these factors?

A. Sure.

Q. Is that fair?

A. Yes.

Q. Now, you mentioned Marathon has built frac models?

A. Yes.

Q. What areas?

A. So the core input data that we use for --

Q. Let me step back here. Can you show us on one of your maps here the areas where you have a frac model?

A. So that would be the -- the -- most of the inputs for that model would be from 23S-27E, Section 9.

Q. Hold on. Let me get to the exhibit. Which exhibit is it?

A. The big map.

Q. The big map, which is?

MS. BRADFUTE: Exhibit Y.

THE WITNESS: Exhibit Y.

Q. (BY MR. FELDEWERT) Thank you, sir.

All right. So where are your frac models?

A. 23S-27E, Section 9.

Q. 23S-27E, Section 9.

And have you brought those frac models here today?

A. No.

Q. No?

How long have you had your frac models in this area?

A. We've had those frac models since we obtained the data there eight to nine months ago.

Q. But you chose not to bring those frac models and that data here today?

A. Correct.

Q. You mentioned this small faulting, I think is how you described it, correct?

A. Small displacement faults.

Q. Small displacement faults. Okay.

And I think you referenced those in Section 30 to the west?

A. Yes.

Q. Does that extend into Section 29?

A. Yes.

Q. Does it extend into the east half of Section 29?

A. Yes.

Q. Where BTA's drilling?

A. Yes.

Q. Now, when I look at your maps, am I correct that I don't see on your maps any of this small faulting, as you've described it?

A. I described an interpretation from seismic data. Whereas, the maps are derivative products from well data.

Q. So they're not based on seismic?

A. These wells -- these maps are not.

Q. So the maps you chose to present here today don't show any faulting in the area?

A. They show inflections from the contours that I have described for the hearing examiners, could be the result of structural anomalies such as faulting in the area.

Q. If they were true faults, you would show them on your maps, wouldn't you, as a geologist?

A. What's a true fault?

Q. I don't know. If they were faults that really concerned you, wouldn't they show up on your map?

A. I -- I don't understand your question. I've described to the hearing examiners the faulting. If you'd like more detail on that, I can explain that in more detail.

Q. Okay. But those faults didn't prevent you from staying in your targeted zone?

A. We went through this during the last hearing because we proactively were able to plan the wells.

Q. The only problem you had was trying to stay within a 30-foot window, right? Remember that?

A. Yes.

Q. Bingo?

And zones you're targeting, I think you mentioned, were what, a few hundred feet?

A. No. So the Wolfcamp Sand -- the Wolfcamp Y Sand is less than 100 feet thick.

Q. Okay. But it's more than 30?

A. It's more than 30, yeah.

Q. Now, I think -- when I look at some of the exhibits you chose to bring here today, if I go to Exhibit DD -- I'm sorry -- yeah -- EE.

MS. BRADFUTE: My objection is that he hasn't testified about these.

MR. FELDEWERT: I understand.

Q. (BY MR. FELDEWERT) Have you seen these exhibits

before?

A. Briefly, yes.

Q. All right. This involves a sample from Lea County; is that right?

A. Correct.

Q. If I go to FF, does this involve another study based in Lea County --

A. Correct.

Q. -- all the exhibits here in FF?

A. Yes.

MS. BRADFUTE: Objection. Just a correction. This witness may not be the best witness to testify about these exhibits because he didn't prepare them.

THE WITNESS: Yeah. I also just realized there are multiple pages in FF, so I didn't even -- I didn't get a chance to look through all of them.

Q. (BY MR. FELDEWERT) All right. Take a quick look.

A. So they're not all Lea County.

Q. What other county is involved, because they look like all Lea County to me. That's why I'm asking.

A. So page -- it's the page that has "Delaying offset development leads to waste (Lea County)."

Q. Oh, okay. That is the second-to-the-last page;

is that right?

A. Third-to-the-last.

Q. Third-to-the-last page.

Okay. But if I look at EE and FF, all the other pages are from -- reflect the wells in Lea County?

A. Correct.

Q. And I believe when you were here before, didn't you testify that the geology in Lea County differs from the geology in Eddy County?

A. Depending on the formation you're talking about, yes.

Q. Okay. And I think you even testified further and said that comparing results in Lea County to results in Eddy County would be like comparing apples and oranges?

A. When we were specifically discussing wells that were drilled at different spacings, then yes.

Q. And you said it would be like comparing night and day?

A. In that comparison, yes.

Q. Okay. And I think you testified at the last hearing that you did agree that there is some mechanical barrier between the Bone Spring and the Wolfcamp Formations?

MS. BRADFUTE: Objection to form.

EXAMINER BROOKS: Overruled.

THE WITNESS: I don't remember.

Q. (BY MR. FELDEWERT) Didn't you testify that you -- that there was mechanical barriers between the Wolfcamp and the Bone Spring Formation in Eddy County here, this area that's at issue?

A. I don't remember.

Q. In fact, didn't you say -- let's see. In the way of mechanical barriers between the 2nd and 3rd Bone Spring and the Wolfcamp Sand, your testimony was there isn't much in the way of mechanical barriers, right?

A. That is correct.

Q. So your opinion would be there are mechanical barriers, but, in your opinion, there's not much?

A. If that's what I said.

Q. Okay. All right. And you agree with me, do you not, that no other operator in the area that is on your Exhibit R has seen the need to develop the Bone Spring or the -- in the Wolfcamp simultaneously?

A. No other operator other than Marathon.

Q. All right.

MR. FELDEWERT: That's all the questions I have.

EXAMINER JONES: Mr. Brooks?

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. The main thing I got -- and maybe it's because of your testimony; maybe it's because of the last thing you said on the subject to the most recent questions. But the main thing I got from what you said is that you believe that, between the Wolfcamp Sand and the 3rd Bone Spring, developing them simultaneously will result in greater recovery, which I assume means that you were thinking that the first -- the last -- the second one you develop, that there is a time lag between recovery -- is that correct?

A. That is correct.

Q. Why is that?

A. That is because of the impact of depletion. If you drill a well that then -- and then complete it and then come back much later, several months or years later, to drill a well that's within a few hundred feet of that prior well, what's going to happen is that the new well is going to see the effect of that depletion. We sometimes call these child wells. And those child wells will be -- the fractures that we induce will grow preferentially in a way that is impacted by the stresses of the subsurface that have already been altered because of the wells that have already been fracked. And so

this is all important if you do not see what we would consider a frac barrier between the two zones that those wells are drilled in.

Q. And you've testified that there is not such a barrier --

A. That is correct.

Q. -- and the witnesses for BTA have testified that there is?

A. Correct.

Q. Okay. And when you talk about spacing between wells, you were talking about vertical spacing? You were not talking about the horizontal spacing between the wells?

A. From Mr. Feldewert's line of questioning, I was talking about horizontal spacing. From the -- from the answer to your previous question, I was talking about vertical spacing.

Q. Okay. Well, do you think that Marathon's plans have a better horizontal spacing than BTA's? If so, why?

A. I do, because Marathon's plans are adjusting to the wells that we know are already in the ground in the east half of Section 30, and we know that because Marathon has drilled those wells. And so --

Q. Well, that's -- I'm sorry.

A. Let's turn to Exhibit S.

Q. Exhibit F?

A. S, as in snake.

Q. Okay. S. Okay. Yes.

A. So Marathon has, in the east half of Section 30, drilled five wells to date, is currently fracking there as well. And we have continued that spacing pattern for the east half of Section 30 into the west half of Section 29 where we proposed our Zeus wells. And that would be horizontally three wells per section in the 3rd Bone Spring Sand, horizontally three wells per section in the Wolfcamp Y Sand and horizontally three wells per section in the Wolfcamp A. So this is simply a continuation of the development plan that Marathon has already put in the ground in the east half of Section 30.

Q. Okay. But the only formation in which that differs from what BTA proposes -- it's hard for me to compare these maps because they're on a different vertical scale, and that's between BTA's 21 and your S.

A. Maybe it would be helpful to turn to Exhibit CC.

Q. Well, first of all, let me get clear what the difference is. The 11H and the 12H are the same on both, right? No, wait. BTA has the 6H, but that's in

Formation -- that's in the Wolfcamp Sand.

Okay. You tell me what the differences are.

A. So the major differences would be in the 3rd Bone Spring Sand, the 2nd Bone Spring Sand. We'll start with the Bone Spring. In the 3rd Bone Spring Sand, we have one well in this half section because Marathon has already drilled two wells in the section immediately to the west, and we are drilling at a three-wells-per-section spacing.

Q. Yes.

A. So we did not want to put our 15H well too close to that western line because it would be getting too close to a well that will already be on production.

Q. Okay.

A. Does that make sense?

Q. Yes.

A. The Wolfcamp Sand are the same. We're both doing two wells in this half section. We have our 14H well in the Upper Wolfcamp. Whereas, BTA does not have a well proposed in that. We know from our own drilling operations, as well as Matador, that that is a producing zone in this area.

Q. Yeah. Now, that's the Upper Wolfcamp Shale?

A. Upper Wolfcamp Shale, correct.

In fact, Matador has drilled and completed a well in that zone, in Section 31, directly offsetting the project area. So we know that this is a productive zone. Marathon just wants to collect logs over it before they choose where to land that well, and we'll be doing that in our 16H wellbore so that we know where to optimally land that -- that well. That's why it's in Development Phase 2.

Q. Well, this will carve your spacing pattern?

A. Correct. We've already drilled two other Wolfcamp -- Upper Wolfcamp Shale wells in the east half of Section 30, and we will be spacing it the same into Section 29.

Q. But if we were to oppose your plan -- if we were to -- to --- to accept your plan at least in the 3rd Bone Spring, we would be denying Marathon a chance to get as much of a crack at that formation within this area as you are -- I mean denying BTA the chance to get as much of a crack at that as you've already gotten on a well-by-well basis?

A. On a well-by-well basis.

We are concerned a little bit about spacing the wells too tightly in that 3rd Bone Spring. And considering Marathon's wells that are already in the ground in the east half of Section 30, we do not see it

appropriate to put two 3rd Bone wells in the west half of Section 29.

Q. But on the other hand, do you think it's good to have four Bone Spring down -- I mean four Wolfcamp D wells --

A. In that half section, yes.

Q. -- as opposed to Marathon -- I mean BTA proposing only two?

A. Yes. And we've done significant studies on the Lower Wolfcamp Formation both in terms of the geology and the offsetting wells that have been drilled in that zone.

There's been, as we've said today, a lot of development in that -- in that correlative zone. And based on the volumetrics that we understand and the potential for oil in place, we think that that zone has the capacity for eight wells per section. And we are slightly offsetting the TVD -- you can kind of see it in a wine-rack fashion here -- just to reduce the amount of potential intervention.

Q. Now, isn't that -- I'm sorry. Did I interrupt?

A. No. That was all.

Q. Well, I thought somebody testified that the Wolfcamp Sand -- Wolfcamp D was gassy.

A. That is correct.

Q. Wouldn't that tend to mean that you would draw from farther away rather than closer?

A. But I think the other part of that story that was missing was the ability to grow fractures those distances away --

Q. Yeah.

A. -- and how the rock would react to the completions we would put in the ground.

Q. Have you put any studies in evidence in this case in any of the proceedings?

MS. BRADFUTE: We still have one other witness who is going to testify.

EXAMINER BROOKS: Oh, okay. That's right. You do have another witness for you, unfortunately. Fortunately for you, unfortunately for all of us who sit here.

(Laughter.)

MR. ALEKSEENKO: I would prefer to go earlier. I didn't think it would take five hours --

(Laughter.)

EXAMINER BROOKS: I would have preferred that, too, but we have to do one at a time. No offense meant.

I think I'm going to quit on that.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. Okay. So I read what you said last time. Basically, you ran this 3D seismic over a broad area here; is that right?

A. Correct.

Q. And then you did it because of the fear from these discontinuities --

A. Well, we did it for many reasons. I mean, Marathon uses 3D seismic for assisting in all of our operations and all of our geologic studies. So we have 3D seismic over most of our operated acreage in Eddy County.

Q. It helps you put disposal wells in or --

A. It's a laundry list of applications.

Q. You talked your management into doing it (laughter)?

A. It was difficult. Yes.

Q. Okay. But you run it on each well?

A. We do it on each lateral well.

Q. On each lateral. So you have a tool -- you have a tractor or something that pulls it into the open holes?

A. Yeah. So we basically toe frac the wells before they get fracked. We inject a little bit of

fluid and have our own surface equipment that we use to measure the drawdown. So that gives us an estimate of pore pressure gradient at that single point.

Q. Okay. And maybe close your pressure a little bit?

A. Yes.

Q. And yeah, it's -- I think the big thing that's changed is this super pad that somebody talked about. I'm really interested in that (laughter), up at the north part of Section 29. That fee owner's going to get rich up there.

A. Well, it's federal lands.

Q. Oh, really?

A. Yes.

Q. I thought it was fee land up there. But anyway --

A. I apologize. I'm sorry if I misspoke.

Q. That's all right.

Tell me more about this pad.

A. Sure.

So Marathon's learning now that as we want to develop these lands in several development phases, that the most efficient way to do that on the surface is to build one large pad that has the capacity for several rows of wells so that we don't have to come back and

build entirely new pads every time we want to drill infill wells.

So we will build a pad that has the capacity for the -- for the -- for all the wells that we would like to drill in that -- in that unit over the course of many years likely. And that way we can build all of our facilities in one location, and we can allow some optionality in how we choose to complete the wells. It's really the most efficient way to do it, and it saves the most disruption on the surface as well.

Q. Okay. And I understand it's preliminary approval, but you haven't quite got final approval, but --

A. We got approval from the BLM, and now we're working with the surface-use owner.

Q. Okay. Okay. That was my main question.

EXAMINER JONES: Any other redirect for this witness?

CROSS-EXAMINATION

BY MS. BRADFUTE:

Q. I just want to follow up on a couple of questions that Mr. Feldewert asked you. Mr. Keren, in preparing for today's hearing and preparing your geologic study for the Zeus wells, did Marathon review frac models?

A. Yes. Absolutely.

Q. Okay. And does Marathon, in its regular course of business, prepare frac models before it proposes wells?

A. Yes, of course. And I will note that our frac models in this case are only about four to five miles away from the project area.

Q. Okay. And Marathon also reviews seismic data, correct?

A. Correct.

Q. Marathon has data from the wells it's drilled. And you went over the different types of data that you have -- that you have reviewed, but it might be beneficial to make sure that that's in the record, that you have the science you reviewed.

A. Sure. So --

MR. FELDEWERT: I object to the form of the question, Mr. Examiner. This witness is going to sit here and go through information that he says he reviewed and relied upon that they chose not to bring here to this hearing so either you or us could look at. And I think it is improper for a witness like this to sit here and rely upon frac models and studies that they have and then not bring it to the hearing so that other people can examine the data.

MR. BRUCE: I agree.

MS. BRADFUTE: Typically, experts in court cases and other proceedings, they review all kinds of materials, as well as witnesses.

EXAMINER BROOKS: Well, that's true. I wrote a paper on that subject once a long time ago, but, of course, there you have discovery -- you have extensive pretrial discovery. However, I'm going to overrule the objection because I think we want to flesh out everything we can.

THE WITNESS: Okay. So we've already discussed the defense that Marathon collects at each for a lateral that's critical for understanding the pressure sys- -- the pressure system and especially how it varies between the Wolfcamp and the Bone Spring.

We have core data. We have wireline log data. And this -- and I'll say, all this data I've mentioned is collected within the area that's in this map. So this isn't down in Texas. This isn't over in Lea County. This is all right here in Eddy County. So we have core data. We have log data. We have microseismic data. We have seismic data. We have all the well data that's collected from Legacy wells that have been drilled in this area. We have tracers that we'll inject into wells as we're fracking them so that

when we flow back, we can understand the contribution from different wells. We have bottom-hole pressure gauges that we -- that we install to try and understand the potential interference between wells.

All this is to say that we have a massive subsurface data set very local to this area. And we use all of that. We integrate all that data together to plan and propose our wells.

Q. (BY MS. BRADFUTE) Mr. Keren, what is the total budget that Marathon spends on data science?

A. On data science alone, we spend in the range of about a few million dollars a year.

Q. Thank you. That concludes my questions.

MR. BRUCE: One question.

EXAMINER JONES: Yes.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Looking at your Exhibit S --

A. Yeah.

Q. -- so what Marathon has done over in the east half of 20- -- east half of Section 30 is drilled two 3rd Bone Spring wells?

A. Correct.

Q. And in the east half of 29 -- or excuse me -- the west half of 29 and the northwest quarter of 32,

you're only planning on drilling the one 3rd Bone Spring well?

A. Correct.

Q. And your stated reason is basically you don't want any competition with your easternmost Bone Spring well in Section 30?

A. No. The stated reason is that Marathon believes the appropriate spacing is three wells per section. And because we don't operate the west half of Section 30, we only operate that east half, then the full-section development for us, if we were to operate Zeus, would be inclusive of these two half sections I'm showing on this exhibit. So we have planned this to be full-section development, even though it's half of Section 30, half of Section 29 at three-wells-per-section spacing.

Q. And might that impair the correlative rights of BTA and the other interest owners, royalty -- overriding royalty owners in the west half-west half of Section 29 and the west half-northwest quarter of Section 32?

A. For the 3rd Bone Spring, yes. However, we do have other Bone Spring wells planned in the west half-west half. That would be the 13H well in the 2nd Bone Spring Sand.

Q. Thank you.

MS. BRADFUTE: That concludes the questions for this witness.

EXAMINER JONES: Can we -- do you want to do ten minutes?

(Recess, 4:59 p.m. to 5:12 p.m.)

EXAMINER JONES: Okay. Let's go back on the record and continue with Marathon's case.

MS. BRADFUTE: Thank you.

MIKHAIL ALEKSEENKO,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MS. BRADFUTE:

Q. Good afternoon.

A. Good afternoon.

Q. Could you please state your name for the record.

A. Mikhail Alekseenko.

Q. And, Mr. Alekseenko, who do you work for?

A. I work for Marathon Oil Permian, LLC.

Q. What are your responsibilities at Marathon?

A. I'm a reservoir engineer for southeastern Eddy County, New Mexico.

Q. Have you previously testified before the Division?

A. Yes.

Q. And were your credentials accepted and made part of the record?

A. Yes.

Q. Are you familiar with the applications that have been filed by Marathon in these matters?

A. Yes.

Q. Are you familiar with the applications filed by BTA in these matters?

A. Yes.

Q. Are you familiar with the status of the lands that are the subject matter of these applications?

A. Yes.

Q. And are you familiar with the drilling plans for the proposed wells?

A. Yes.

Q. Have you conducted an engineering study of the area embracing the proposed spacing units?

A. Yes.

MS. BRADFUTE: I'd like to tender Mr. Alekseenko as an expert witness in engineering matters.

EXAMINER JONES: Any objections?

MR. FELDEWERT: No.

MR. BRUCE: No.

EXAMINER JONES: So qualified.

Q. (BY MS. BRADFUTE) Mr. Alekseenko, can you please look at what's been marked as Exhibit CC in the exhibit book in front of you? And this diagram was previously discussed by Marathon's geologist, correct?

A. Yes.

Q. Could you please walk through this diagram from an engineering standpoint and explain the significant observations that you would like to note for the hearing examiner?

A. So on the left is shown Marathon's proposal. On the right is shown BTA's proposal. The wells -- let's take a look at the wells on the left first. They're colored by development stages, Stage 1 in blue, 2 in green and 3 in gray.

The first stage consists of 12H, 15H, 16H and 17H, which are two Wolfcamp Sand wells, one 3rd Bone Spring Lower well, and one Wolfcamp Lower well.

As Mr. Keren earlier identified in testimony, there is a reason for why these wells were chosen to be in Stage 1. One of the big reasons is we want to collect data necessary in order to land the 14H. There is significant potential in the Wolfcamp A and Wolfcamp Upper, as evidenced by nearby performance. However, here, in this particular unit, there is a

little bit of ambiguity due to the logs. There might be a significant carbonate member, and we just want to de-risk this bench a little bit prior to committing capital to this well.

And if you look on the -- on the right, there is no well in BTA's proposal in that horizon, which we think is very promising.

Secondly --

EXAMINER BROOKS: Which exhibit are you looking at?

THE WITNESS: CC.

MS. BRADFUTE: CC.

EXAMINER BROOKS: Okay. I was looking at CC.

THE WITNESS: CC. Yes.

EXAMINER BROOKS: Okay.

THE WITNESS: Again, Mr. Examiner, one of the main reasons why we are drilling 16H first in the development of Stage 1 is we want to collect open-hole log data to help us de-risk the landing zone for the 14H, because there is a little bit of ambiguity around a potential carbonate member in this unit. But Wolfcamp A, Wolfcamp Upper looks very promising. There is development of that bench immediate to the west, and we'd like to take advantage of it, too.

The second big discrepancy is the number of wells in the Wolfcamp Lower. Marathon -- Marathon's proposal is four wells in the half section or eight wells per section, and those are the 11H, 16H, 18H and 20H. This is -- this contrasts with BTA's proposal of two wells per half section or four wells a section.

And as we heard during BTA's own witness testimony today during cross-examination, Mr. Charuk testified that eight wells per section may be the appropriate well density for the Wolfcamp Lower. We agree with Mr. Charuk, and that is the plan that we've laid out for this unit.

Q. (BY MS. BRADFUTE) And, Mr. Alekseenko, a point of clarification: We heard that testimony from Mr. Charuk --

A. Charuk, yes.

Q. -- not from BTA's witnesses; is that correct?

A. Oh, I apologize. Yeah. From Mr. Charuk, who is -- correct -- who is --

Q. Who is an overriding royalty interest owner; is that correct?

A. Correct. Correct. Pardon me. I misspoke there, and I apologize for that.

Q. Were you present for Mr. Brooks' questions about the Lower Wolfcamp Formation and proper spacing

within that Lower Wolfcamp Formation?

A. Yes, I was.

Q. Typically, the Lower Wolfcamp Formation has been thought of as a gas formation in New Mexico. Is that your understanding as well?

A. That is my understanding as well. The temperatures during the hydrocarbons extraction were higher in this bench, and that resulted in higher GORs right around 8- to 12,000.

Q. Okay. So why has Marathon proposed closer spacing than what BTA has proposed for its Lower Wolfcamp wells?

A. There are two main reasons. One is the thickness of that horizon. It's, if I'm not mistaken, about 500 feet thick. And that is very significant.

And the second one is permeability. There were some questions earlier today about what are the differences in permeability between shales and sandstones. Typically, shales have lower permeability, and, therefore, they require much more in terms of hydraulic fracturing in order to flow back economic quantities. Secondly, beyond the extent of hydraulic fractures, those mud rocks hardly flow on their own. The -- the radius of the -- radius of penetration in those shales with millidarcies is minimal.

Q. Okay. Thank you.

And were you present for Mr. Keren's testimony about the depletion zones that have been marked on this diagram?

A. Yes.

Q. Okay. And could you please explain your interpretation of the depletion zones to the hearing examiner?

A. Well, I think it comes to nobody's surprise that, as you know, the wells are completed as hydraulic fracturing takes place. The fracs grow both laterally and vertically. Consequently, as production is taken from the wells, that production is taken from some horizon that is, you know -- that spatially is located both laterally -- you know, above and below the well, to the left, to the right of the well. It has some sort of halo around it. The shape of that halo, we could debate for weeks. But that it's not a pancake or not a vertical skyscraper, that is certain, and that is agreed upon by most everybody in the industry. And that is what those halos represent. The risk and the issue with doing depletion halos is what happens as you come back and frac neighbor wells.

So if you look at BTA's proposal, the 5H and 6H would be completed first. The 9H and 10H would

be completed much, much later, as they testified.

Q. Mr. Alekseenko, I want to interrupt you briefly.

A. Yes.

Q. There has been a lot of questioning today primarily by myself about when completions are going to occur under BTA's plan. Have you been present for those questions?

A. Yes.

Q. The timing of BTA's completions are important because of this depletion effect, correct?

A. Correct.

Q. Okay. So it's important to understand when BTA and when Marathon is going to -- what order these wells are going to be completed in or if they're all going to be contemporaneously completed so that you can understand how depletion is going to occur within a spacing unit, correct?

A. Yes, that is correct.

The more fluid you draw from the reservoir, the more you lower the pressures, the more you exacerbate the depletion impacts. But in this particular case now, just imagine that 5 and 6H were in production for, say, six months, a year, a year and a half. Pressure has been lowered. The 9H and 10H have

been fracked. If you're familiar with a hydraulic fracturing operation, normally something called the pad is pumped first, and that is pure fluid, no sand. Fluid travels extremely far, extremely quickly. It does not have the capacity to open the rock significantly, so it just opens minuscule fractures and shoots very far. We've observed this on numerous occasions as we open up our toe sleeves and monitor the pressure on the neighboring wells in this basin and in other basins.

So as that fluid travels, it initially travels uniformly in kind of all directions depending on the stress profile and depending how pressures are distributed in that rock. As it finds lower pressures, it stops growing symmetrically, and it starts growing preferentially towards depleted rock. That's just physics and just common sense.

And, unfortunately, because sand is only pumped later, the majority of your sand goes toward the depleted rock, and that is why second-generation wells are routinely underperforming first-generation wells.

And our data that I'll show you here today confirms that in this particular case, coming back for the 9H and 10H and fracking them at a later date would result in significant waste.

Q. And before we get further into your study that

you conduct for this area, I want to briefly discuss the mechanical-barrier issue that has been brought out in testimony earlier today. Is it Marathon's opinion that there is a mechanical barrier between the 3rd Bone Spring Sand and the Upper Wolfcamp Formation?

A. So there is some mechanical barrier, but it's not significant enough to stop fracture propagation from one formation into another.

Q. Okay. And has Marathon seen that when it has been drilling wells in this area of Eddy County?

A. Yes, we have.

Q. And so the proof is in the pudding of what you're actually seeing as you're drilling the wells?

A. Absolutely.

There are multiple models that engineers can put together. Models are heavily dependent on the inputs. Models are routinely fine-tuned to match the results or to match management needs or a client's needs, tell them what the client wants them to tell. Production data and the pressure data is what tells the real story and either validates or breaks the model -- or invalidates the model. Pardon me.

Q. And, Mr. Alekseenko, if you could please look at BTA's exhibits and you probably have two BTA exhibit books in front of you. I want you to focus on the

exhibit book that starts at Exhibit 21 for BTA.

A. Okay.

Q. So it's their exhibits from today.

A. Uh-huh.

Q. And I'd like now to turn to Exhibit 34. Is it your understanding that Exhibit 34 is a frac model that was prepared by Schlumberger for BTA for the 3rd Bone Spring Sand Formation?

A. Yes, it is.

Q. Okay. And it is also your understanding that this model was based on a well located in Reeves County in Texas?

A. Yes. My understanding is this is the well in a different state but still in the Delaware Basin. Yes.

Q. Could you please discuss for the hearing examiner's benefit your observations from this frac model?

A. Well -- so one thing that immediately concerned me here and, frankly, raises some serious questions for me is that it does not address the sequence of the drilling and completion order. And it was testified earlier today that one of the significant inputs into a frac model is a stress profile. It is undeniable that the stress profile changes as you produce wells. And as that stress profile changes, it has an impact on the

frac model. It's a -- it's a key input that drives where the fluid and pressure go and the sand go. And that is really the main concern that I have.

Q. Okay. And so we really don't have basic underlying data as to when the wells shown in the log were drilled?

A. Yeah. From what I gather here of this model, this was a frac model that assumed you come in, you put a 3rd Bone well into the ground, you complete it in the -- and you look at the fracture propagation profile. Again, that kind of takes everything out of context. We are not looking at a stand-alone 3rd Bone well development here, and this can be very misleading.

Q. Okay. And what Marathon is looking at is completion of its Upper Wolfcamp wells simultaneously and zipper-fracked with its 3rd Bone Spring wells, correct?

A. Correct. In fact, the frac models that we've done look at the entire section development, and we play around with what happens if you complete these wells first, these wells second, what happens if you wait for a while, et cetera.

Q. Okay. So Marathon actually runs several different simulations through frac modeling that you have at your desk at your office?

A. Absolutely. Yeah. And, you know, one benefit that we have, as I testified last time, we have an in-house Schlumberger engineer with 15 years of experience, and his incentives -- his interests are much more aligned with the company's interest. He's not only in-house, he's a Marathon employee, so he has a vested interest in providing the model that most accurately represents the reality. And even though -- even then, it's very hard. Model is just a model. It's a representation of reality.

Q. And can you please turn to Exhibit 35 of BTA's exhibits? And this is a sample frac model that BTA presented from the Wolfcamp -- correct?

A. Uh-huh.

Q. Do did you have similar concerns about this frac model that was presented?

A. Oh, yeah, absolutely. Again, it's: Take a look at this cat here, this cat here, but never do we see two cats together. That's concerning.

Q. Mr. Alekseenko, I now want to turn to what is marked as Marathon Exhibit FF, Frank, Frank.

A. I like to think of it as Feldewert, Feldewert.

(The court reporter requested clarification of the answer.)

MS. BRADFUTE: Feldewert, Feldewert.

THE WITNESS: But don't put that on the record.

(The court reporter responds.)

(Laughter.)

Q. (BY MS. BRADFUTE) Mr. Alekseenko, have you conducted a study of how infill well development can result in waste in southeastern New Mexico?

A. Yes, I have.

Q. And you were present during the April 24th hearing, correct?

A. Yes, I was.

Q. And during that hearing, BTA proposed that if Marathon wanted additional wells, it could just propose infill wells as a nonoperator within the section, correct?

A. Yes, they have.

Q. And if infill well development was necessary under BTA's plan because it has proposed too few wells and got the spacing wrong by drilling not enough wells, in your opinion, would that result in waste?

A. Absolutely. What's done is done. It's hard to go back and fix it. And I think Mr. Examiner asked a similar question earlier today. It is my opinion and the opinion of many of my colleagues that you only have one chance to get the well spacing right.

Q. Okay. So let's look at Exhibit FF. Is FF your study of infill development in southeastern New Mexico?

A. Yes, it is.

Q. And can you please walk through the first page of this exhibit?

A. Yes. And let me just give a little bit of background very briefly. So my attempt here is to share as much information as I can and as much knowledge as I can with the examiners and with BTA and educate everybody a little bit on kind of what's going on with infill -- with infill performance in New Mexico, as it should, in my view, impact the decision here today.

But on the left third of the chart, you see the target area that was reviewed here. And this is Lea County -- southwestern Lea County and just a little bit in northern Culberson, Texas. And we looked at the 3rd Bone Spring and Wolfcamp Sand wells and Wolfcamp Upper wells in this study. In total, there were about 320 wells that were reviewed.

Now, if we go towards the center of this exhibit, we manually grouped and classified all the wells. We classified them in three buckets. They were either parent wells, direct offsets or children wells. Parent wells would be those wells that were drilled and completed at the same time, no offsets, virgin rock,

virgin pressure. You want to -- two or three or four wells, they would still be considered parent wells. There may be some interference between them, but there was no depletion at --

EXAMINER BROOKS: We started with Exhibit FF. What page are we on?

THE WITNESS: The very first one.

EXAMINER BROOKS: Okay.

THE WITNESS: The direct offsets are depicted in red. On the mid-chart would be the wells that are immediately -- immediately adjacent to the parent wells. So an operator would come in, drill parent wells, come in with pads adjacent. Direct offset would be the one that's closest to those parent wells and would suffer from the depletion the most.

And then children wells would also -- would be wells that were drilled and completed at a later date but not immediately adjacent to the parent wellbores.

So we went through this exercise of reviewing those 320 wells, and we ended up with 130 different groups. With anticline, each one of those 320 wells and analyzed their performance, and that's the data that you see on the right here. This is something called cumulative distribution function. It's a statistical -- statistical term, but really it's very

simple.

On the x-axis, you have oil EUR, and on the y-axis, you have percentage. And this percentage is reflective of the ranking in the group of each bucket. So in other words, say there are 100 parent wells. If they were all bucketed, they would all be ranked from smallest to the largest. The bottom one would get percent number one. The top one would get percent number 100. That way you can see statistically are these wells performing differently than one another. And you see the parent wells have high EURs despite the fact that those are the wells that, by definition, were brought on line earlier.

And, again, we heard the testimony earlier today from Mr. Charuk that completion technologies have changed significantly over the years and well performance has improved significantly over the years.

Those parent wells have smaller fracs, yet outperform the wells that were brought on at a later time with bigger fracs. Children wells follow parent wells, and finally direct offsets significantly lag behind both parent and children wells. That is direct evidence that infill wells, on average, statistically underperform parent wells. That is the evidence of depletion. That is the evidence that the proposal of

BTA for Marathon to come in and take an infill well is something that would not be wise of us to take.

Q. (BY MS. BRADFUTE) Mr. Alekseenko, would this analysis also apply to later drilling the 3rd Bone Spring Sand wells after the Upper Wolfcamp wells are drilled under BTA's plan?

A. Most certainly. And I'll show a couple pieces of evidence here, some from Lea County but also some from Eddy County showing that -- validating our belief that there is no significant mechanical barrier between those two horizons. And especially if you were to produce from the Wolfcamp Sand earlier and lower the pressures on those horizons, the 3rd Bone Spring fracs will grow largely into the already depleted zones.

Q. And, Mr. Alekseenko, just to summarize, in conducting this study, you looked at 320 wells -- or at least Marathon looked at 320 wells. They grouped and classified those groups into 130 different groups and then created a curve analysis to study how the performance was between those wells?

A. Yes.

Q. And when parent wells, even if it's multiple parent wells, are drilled together -- let's say you can have four or five parent wells drilled together within a section -- they always typically outperform your direct

offsets and your children wells; is that correct?

A. Absolutely. And, again, it goes back to the physics. The fluid goes first. The sand moves after it, and that sand is already following the path of least resistance that the fluid has found. And what ends up happening is you are propagating fractures into the zone that's already had fractures in it. You are -- you are double-dipping into something that's already been produced from.

And, again, you go back to fundamentals. Why does that area need horizontal development? These wells do not flow by themselves in commercial quantities. They need hydraulic fracs. Well, if you were to set yourself up in a fashion where hydraulic fractures -- fracturing too deep does not work, you really shot yourself in the foot. You took the whole premise of lateral development, horizontal development out of the picture. You should not be doing it.

Q. If you could please turn to the second page of this exhibit and could you please explain what this document represents?

A. This is one of the examples from the study. This is a pad -- several pads in Lea County, New Mexico. Those are Rattlesnake wells, 701H through 709H. And you see the map view on the left, and there are dots --

colored dots located in the sticks. Those colored dots correspond with the colors on the charts to the right of the map. And the location of the colored dots represents the sequence that these wells were brought on line. The higher the dots are in the picture, the sooner in time were the wells brought on line. So you kind just say, Okay, the blue dots were brought on first, followed by red, followed by green. So we can quickly see how the performance changes with the parent-child effect that we just talked about. We can see it in the pad-by-pad example here.

So the Rattlesnake 701 and 702, depicted in light and darker blue, were brought on line first. And if you look on the oil cum chart, which is the bottom, right chart, they are outperforming every single well. There is one well that comes close to it, and that's the Rattlesnake 709H. That's the dark green well. That is the well that's half bounded -- it does not have a neighbor on one side -- that was brought on line about a year later with a significantly larger frac.

What happened with the red wells, the wells that were brought on line on -- in Q3-2016? Those two wells significantly underperformed the blue wells because of the depletion impacts. Same goes for the green wells that were brought on line in Q2-2017. They

underperformed the blue wells. Parent wells outperformed -- these two blue wells outperformed every single well except for that half-bounded well, and that is despite the fact that they had smaller completions on it.

I also noted that, you know, the red wells had significantly larger fracs than the blue wells. And the depletion impact on the green wells is actually higher than it is on the red wells. And it's kind of hard to see, but the slope of those green-laid [sic] wells is really kind of sloping, sloping down. Well spacing is identical, but because the red wells had large fracs on them, about 2,500 pounds per foot, the green wells really tapped into those pre-existing fractures much more than the red wells tapped into the smaller fracs of the blue wells.

And, again, given that BTA is planning to complete their wells with 2,500 pounds a foot, it is very clear that we would see similar impacts here.

And, again, just to reiterate the fact, fully bounded wells, if you look at the green wells, underperform half-bounded wells. The dark green was much better than all the other greens there.

But it's just one example of parent-child relationship at work, just to kind of communicate the

depletion issues that are present out there.

Q. And if you could please turn to the next page of your study and explain what that document shows?

A. This is an interesting example, and I really wanted to bring it in because it was eye-opening for me. The green wells are the Whirling Wind wells that made quite a splash about this time last year. They were, at that time, some of the best New Mexico Delaware wells, producing over 5,000 barrels of oil a day in IP. And that was publicly released, and there was a lot of talk about it.

What wasn't talked about as much were the Calm Breezes that were brought on line about ten months later. So the green wells were brought on line first. The blue wells were brought on line second. And, again, the proof is in the pudding. Those blue wells just significantly underperformed the green wells.

Q. And if you could turn to the next page of your study and explain that?

A. This one is an interesting example because it shows the impact of infills, what happens if you were to drill a couple of wells first and come in and drill in between them later. I won't bore you with all the details. There is quite a bit of -- the sequence of development here was very -- kind of complex. You see

the black well on the west was completed first, followed by a couple of grays, followed by sequences of greens.

What I want you to take a look at is those two red wells that were completed last. One of them was Wolfcamp. One of them was 3rd Bone Spring. They were completed about a year after the green wells were brought on line.

Q. And I just want to stop you right there. The green wells, what formation were those green wells in?

A. Those green wells were in the Wolfcamp Sand.

Q. Okay.

A. And one of those infill wells was a Wolfcamp Sand well. One of those infills was a 3rd Bone Spring Lower well. And if you look at the chart on the right, those two wells really stand out in a really bad way. Those infills performed very poorly. They'll never make returns for the shareholders. They'll reach economic -- sooner, and I expect they will never pay for themselves.

Q. If you could turn to the next page of the study and explain what is depicted here.

A. I was looking for an example where BTA would develop at density or, you know, put wells next to one another because a majority of their wells are lease-holding wells.

EXAMINER BROOKS: Excuse me. We're on page

5 now?

THE WITNESS: On page 5, correct. That is titled "BTA infill development example."

EXAMINER BROOKS: Thank you.

THE WITNESS: So I was looking for an example where BTA would develop at density or somewhere close to at density. This is the best example that I could find. It's located in Lea County, New Mexico. These are the wells they brought on line in 2015 and '16. The two wells that they brought on line first are light blue and dark blue wells. The light blue wells and the dark blue wells were brought on line around the same time, in January and February of 2015. And they performed very similarly, although I would argue that light green, being just one month ahead, got a significant boost. I don't know if that is because it was one month ahead. I don't want to speculate. What I would rather point out is the performance of the two consequent wells that were brought on line.

So after bringing on line those two blue wells in January and February of 2015, BTA brought on line, in August 2015, the well that is depicted in light red. And that is the westernmost well of all four. And that well significantly underperformed both of the blue wells. You can argue it's somewhere between 20 to 30

percent under.

Finally, the dark red well was brought on line later, and it was brought on line in November of 2016, and that well matches the performance of the light red well but significantly underperforms blue wells as well. This is BTA's own example of what infill development leads to.

Q. (BY MS. BRADFUTE) Mr. Alekseenko, the BTA wells shown here in this example, what formation were they drilled into?

A. This is drilled in the Avalon Shale. As I testified earlier, shales are tighter rocks. They require more stimulation to flow. I'm not sure of the thickness of the Avalon here, and I also understand this was developed a few years back and, you know, things change. Today, Avalon is developed at eight wells per section, and it's developed in a stacked configuration. Devon put it in their external releases in Lea County, New Mexico. So this was spacing that was half of what it probably should have been, and yet that led to waste because of the depletion impacts because of the how far fluid goes as it -- as it creates those microfracs.

Q. Mr. Alekseenko, is it your understanding that BTA wants to use a similar spacing pattern in each of the formations that are at issue in its applications in

this matter?

A. Yes. The 3rd Bone Spring, the Wolfcamp Sand, Wolfcamp Lower, each one of those horizons is proposed to be developed with four wells per section by BTA.

Q. Now, there has been prior testimony both in the April 24th hearing and today indicating that the geology in Lea County and Eddy County is different, correct?

A. Yes.

Q. And do you disagree with that statement, that the geology is different?

A. No. There is no dispute. Geology is different. Stress profiles are different. What's not different is the trends and the physics. You -- you don't have to learn how to walk in Australia. You can learn how to walk in America, and you'll be fine in Australia. And that is just what's presented here.

The Wolfcamp Sand and the 3rd Bone Spring well development in Eddy County is a fairly new concept. Lea County has experienced that development for three or four years. Eddy County is just on the verge of that -- of that development. So when I had to look for the data in those benches, in those horizons, I had to look in Lea County. There is just not enough data to look for it in Eddy County, and there won't be until Marathon comes in and develops this rock and shows the way of how

this rock needs to be developed. And that data will come into the public domain in due time, and people will learn from it.

Q. Could you please turn to the next page of your study and explain what's depicted on this diagram?

EXAMINER BROOKS: The next page being page 6?

MS. BRADFUTE: Page 6.

THE WITNESS: Page 6, yes.

So this is based on internal data. And I had to seek management approvals fairly high up at Marathon in order to get this information released for this hearing. Private information is that. Private. Our fiduciary responsibility to the shareholders is to make money, and releasing sensitive information, private information, can be damaging to us. It can be educating our competitors without them participating in the wells. That is not common practice of our company or any other public company. But this information, I was able to secure for presentation today.

This is from Eddy County. This is within a ten-mile radius of the acreage we are hearing here today. And this presents the impacts of what delaying offset -- what infill development leads to. As we purchased acreage from BC Operating and Black Mountain

in March, May last year, we've inherited wells. We've inherited permits that we had transferred to ourselves.

And one of these wells, the blue wells, was one of the wells we inherited, and the second blue well was one of the wells that was already permitted. So one well was already on production. The second well, we had the permit in hand that we went and drilled. As we subsequent went in and infill developed, we placed one 3rd Bone Spring well into the ground, and we placed one Wolfcamp Upper well into the ground, Wolfcamp A well into the ground. And the performance is on the left-hand side, and it's pretty drastic, and that is despite the fact that flowback -- methodology was fairly uniform. Completion strategy was fairly uniform. Everything was similar. It's the pressure. And we noticed that as we treated those wells as well. They treated significantly lower. It was evident that our fluid, our sand is not opening new fracs. It's re-opening something that's been opened before.

And at the end of the day, this is the data that makes or breaks a model. You take this data and you go back and you say, Okay, does my model agree with it? And if your model does not agree with it, you throw away the model, not the other way around. And that is why we know that coming in and developing 3rd Bone

Spring sands at a later date will result in significant waste, and that is why we are opposing that strategy.

Q. (BY MS. BRADFUTE) Thank you.

Could you please turn to page 7 of this exhibit and -- and, actually, before we get into this exhibit, I want to ask you a few questions about the Wolfcamp D Formation. You have previously mentioned the term "spacing wells at density." Could you explain what you mean by that?

A. Spacing wells at density is essentially conducting the studies and figuring out what well spacing should be and then placing those wells in the ground and completing them and bringing them on production either simultaneously or within a very short period of time to minimize depletion impacts.

If you don't develop at density, what happens is what we've just seen earlier. If you don't develop at density, you will grow fracs inefficiently, and your return on investment literally will shrink because you'll be pumping money away somewhere where you don't want it.

Q. And, Mr. Alekseenko, have you studied BTA's horizontal development in New Mexico in preparing this study?

A. Yes, I have.

Q. And has BTA historically developed its sections where it's an operator at density?

A. The only example that I could find was the one I presented earlier, and those wells were not brought on line together, so I wouldn't say that those were developed at density.

Q. So is that the only example that you found of BTA's operations in New Mexico where they had drilled -- actually drilled a complete section at four-well spacing?

A. They may have others. I haven't done a comprehensive study of what they've done. But this was just one of their examples. Most -- I sometimes cursorily look at what they have done, and most of those are stand-alone wells.

Q. Okay. In the Wolfcamp D Formation, Marathon has proposed more wells than what BTA has proposed, correct?

A. Yes.

Q. And is it your opinion that Marathon has proposed an at-density Wolfcamp D zone for those lower --

A. It is our opinion, yes. Volumetrics support that. Our view on permeability, our view on -- on -- you know, total capacity of that reservoir, it's fairly

thick. It's fairly homogeneous. You've got two different benches that you can wine-rack and prevent interference between the wells. We think that -- we know that four wells is not adequate. It's not enough. I testified during the April 24th testimony that with eight wells per section, we're about within 10 percent oil recovery factor and 17 or 18 percent gas recovery factor. So if you scale it to four wells per section, you're recovering 5 percent of the oil in the ground. So our view is that four wells is inadequate and leaves resource behind.

Q. Okay. Now I want to focus on page 7. Does this page discuss at-density development versus what is not at-density development?

A. Yes. I just wanted to kind of summarize our views on what at-density development benefits are and what at-density development hindrances are.

So on the left, it's showing at-density development. This is just an illustration of eight wells per section. Let's presume it's Wolfcamp Lower. And wells are wine-racked. You bring them all on line together, at the same time. You minimize the depletion impact. There is no depletion impact to think of. No well has been producing before you frac the others. They're all fracked together. You're creating very

complex SRV as a result of that. It results in the maximum recovery possible and minimal waste.

Not at-density development shown on the right, however, will undoubtably lead to inefficient frac growth -- it's indisputable -- and inefficient rock stimulation. And as a result, resources will be left behind and waste will occur.

So what's shown on the right is four wells a section. One well is drilled first. Sometime down the line, you come in with a second-generation well and a third-generation well, et cetera. And third and second just don't perform as good. Surprise, surprise.

Q. And, Mr. Alekseenko, has it been your experience that other major operators such as EOG, COG, Chevron have started to drill more wells per section than what has historically been drilled throughout New Mexico?

A. Yes. People are catching up to what's -- what's available in the Wolfcamp Lower and what a great rock this is. We've received proposals from median operators in this area that are even at greater than eight wells per section.

Q. With that knowledge, when you see an operator propose a development plan that is not at density, does that raise concerns for you that that operator might be,

for lack of a better term, squatting on the acreage to hold it?

A. It is certainly our concern. We understand, you know, capital limitations. Sometimes there is not enough capital to put that many wells in the ground. There were some questions during cross-examination around what 7 percent of 85 million amounts to. But we are very concerned because we know the second- and third-generation wells don't perform as good. And to my knowledge, this is not news to anyone in this industry who pays attention. If you haven't been sleeping under a rock, you know these issues. And if people ignore this and go and choose not at-density development, it makes me wonder why are they doing that. It is not in their best interest, unless they never intend to drill second- and third-generation wells and will let somebody else do that.

Q. Mr. Alekseenko, I want to flip back to Exhibit CC, which shows the two competing development plans we're discussing today. I want to briefly follow up on a point raised by Mr. Bruce concerning the 3rd Bone Spring.

Actually, a better depiction of this is Exhibit S, as in Sam. I'm sorry. You're going to have to flip to Exhibit S. There are two 3rd Bone Spring

wells that Marathon has already drilled within the east half of Section 30; is that correct?

A. Yes.

Q. And it's proposing only one 3rd Bone Spring well, the 15H, in its current well proposals that we're discussing here today, correct?

A. It is correct.

Q. And why was that spacing pattern chosen for the 3rd Bone Spring?

A. Well, as Mr. Tucker has indicated, you know, our holistic view on this is we would like to have three wells in section, in 3rd Bone Spring Lower and Wolfcamp Sand and Wolfcamp Upper. It is also our view that fracs, you know, grow toward depleted rock, so we did not want -- we wanted to give the 15H the best shot it had. We did not want to create waste by placing 15H too close to existing wellbores. So with that in mind, with the prevention-of-waste argument in mind, that -- that really -- the correlative rights issue for us.

Q. So due to Marathon's frac modeling and planning before it spaced these wells, is it your opinion that if a 3rd Bone Spring well was placed in the west half-west half of Section 29 and the west half of the northeast quarter of Section 32, that that well would underperform?

A. Yes.

Q. Okay. And would placement of a 3rd Bone Spring well in that particular area cause the 15H well or a well within the east half of the west half to underperform as well?

A. Yeah, absolutely. Again, 3rd Bone Spring Sand, if you look at the depositional kind of environment, those are very, very permeable sands, and you need to be careful with well spacing. Yeah.

Q. And that's due to the nature of the sands --

A. Yeah.

Q. -- frac grow?

A. Yeah.

Q. So Marathon's overall concern in the placement of its 3rd Bone Spring Sand wells is --

A. Is the prevention of the waste, correct.

Q. And, Mr. Alekseenko, is it your understanding that BTA has actually proposed two Bone Spring wells within -- 3rd Bone Spring wells within the west half of Section 29 in the northwest quarter of Section 32?

A. Yes.

Q. Okay. And so is it your opinion that the placement of two 3rd Bone Spring wells will result in underperformance and waste?

A. It will, although I need to clarify that in my

view, the main reason for that underperformance is going to be the presence of the Wolfcamp Sand wells very, very closely, within -- I'm not sure exactly the lateral spacing there, but very closely to the Wolfcamp Sand. And I think that's in Section [sic] --

Q. CC?

A. CC, yeah. Let me turn back to that for a minute.

So my main concern, if you look at Section CC, is that the 9H and 10H will predominantly grow towards the 6H and 5H, which will be producing by that point for a significant period of time.

Q. I now want to focus just for a couple of minutes on Marathon's development plans for the acreage. Is it your understanding that Marathon intends to develop the proposed spacing units at density?

A. Yes.

Q. Okay.

A. In fact, we are doing that immediately adjacent to it now.

Q. Okay. And Marathon also intends to complete its 3rd Bone Spring Sand well simultaneously along with the Upper Wolfcamp wells, correct?

A. Yes.

Q. And this is being done to avoid depletion?

A. Correct.

Q. In your opinion, will Marathon's development plan result in the prevention of waste?

A. Yes.

Q. In your opinion, does BTA's development plan result in waste?

A. Yes.

Q. And could you just bullet point the various different types of ways that waste can be created by BTA's development plan?

A. There are several. In the Wolfcamp Lower, half of the spacing of what our view on well spacing in the Wolfcamp Lower is. And our view of well spacing in the Wolfcamp Lower is validated by numerous leading operators in this area that we receive well proposals from.

And, secondly, the lack of codevelopment of the 9H and 10H, the 3rd Bone Spring wells, with the Wolfcamp Upper sands. And BTA has reiterated in their testimonies numerous times today that they do not believe that the 3rd Bone Spring wells and Wolfcamp Sand wells interfere. We have hard facts, not models, but facts supporting otherwise.

Q. Mr. Alekseenko, finally, was Exhibit FF prepared by you or compiled under your supervision or

direction?

A. Yes.

Q. And was it also compiled from the use of company business records?

A. Yes.

Q. Exhibits DD and EE, if you could just quickly look at those, are these documents included within Exhibit FF?

A. Yeah. Those are documents that are included within Exhibit FF. They were mistakenly repeated there, but no new information is conveyed in DD and EE.

Q. And I apologize. I was in a hearing yesterday while my assistant was compiling the exhibits.

MS. BRADFUTE: I would like to tender the admission of Exhibit FF into the record.

EXAMINER JONES: Just FF?

MS. BRADFUTE: Just FF.

EXAMINER JONES: Okay. Any objection?

MR. FELDEWERT: Exhibit DD is what page of Exhibit FF?

THE WITNESS: DD is page 6.

EXAMINER JONES: So we're not going to admit EE or --

THE WITNESS: So DD is page 6 of Exhibit FF, and Exhibit EE is page 4 of Exhibit FF.

EXAMINER JONES: We've already admitted DD.

MS. BRADFUTE: And it's okay if it's in the record. It's just a duplicate.

EXAMINER JONES: It's just -- it's just -- EE and FF are at question here, think.

MR. FELDEWERT: I don't remember admitting DD.

MS. BRADFUTE: Well, for simplicity sake, I would tender admission of Exhibits DD through FF into the record.

(Marathon Oil Permian, LLC Exhibit Letters DD through FF are offered into evidence.)

MR. FELDEWERT: I have a question about DD before we admit it.

EXAMINER JONES: We'll have to read it back to see if it was admitted.

THE WITNESS: It was admitted. I remember.

EXAMINER JONES: "Y through DD," I have written, but I could have mistaken Y through CC because I'm pretty deaf sometimes.

Q. (BY MS. BRADFUTE) Mr. Alekseenko, if you could look at Exhibit DD.

A. Yes.

Q. Is this a duplicate of one of the documents that's included in Exhibit FF that you prepared?

A. Yes. This page is repeated on page 6 of Exhibit FF.

Q. Okay. And if you look at Exhibit EE, is this also a document that you prepared, and it is also included within Exhibit FF?

A. Yes. That is page 4 in Exhibit FF.

Q. And, Mr. Alekseenko, were these exhibits also compiled by you or created under your supervision and direction and compiled from company business records?

A. Yes, they were.

MS. BRADFUTE: Then I would like to tender, to the extent that it's not already in the record, the admission of Exhibits DD, EE and FF into the record.

(Marathon Oil Permian, LLC Exhibit Letters. DD, EE and FF are offered into evidence.)

MR. FELDEWERT: I have questions about DD and what would then be F6 -- FF6.

EXAMINER JONES: FF, number 6 is in question?

MR. FELDEWERT: This is one that he said this was private information of Eddy County. Okay? So can I ask a few questions about that before we admit it?

EXAMINER JONES: Sure.

CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Alekseenko, if I look at -- I don't care if it's DD or FF6. You were rather vague about where this information came from. Okay? First off, I understand that it involves just one of the six Bone Spring wells in the area -- 3rd Bone Spring wells in the area where the company has data.

A. We collect a significant amount of data on each and one [sic] well we drill and complete. We also collect a significant amount of data before we do that. That data, as you know, comes at a cost. It's not free to us. It's not free to our shareholders. So we are very careful how we release that data. We release what we think is absolutely necessary without releasing all the information that's available to us. I think you would agree that telling everybody where your car keys are and house keys are may not be prudent, and that's why we're not doing that here.

Q. So you didn't answer my question. Does Exhibit FF6 involve just one of the six 3rd Bone Spring wells that you have, for which you have data, in the area depicted Exhibit Y?

A. It includes one of the wells that we have that we received permission to provide internal data to the examiners. Yes, sir.

Q. One of six?

A. One of six, correct.

Q. Okay. Which well on Exhibit Y?

A. I cannot provide you with this information. There is a reason for why the well names are stripped off.

Q. Can you tell me where the section is that's involved here?

A. No. I cannot locate this well for you.

Q. You can't tell us where any of this data came from?

A. This is within a ten-mile radius of the projects in question. Yes, sir.

MR. FELDEWERT: Mr. Examiner, then I object to the admission of this exhibit on the grounds it lacks foundation and that they refuse to provide either you or us with the location and information on where this data came from.

THE WITNESS: I would be glad to provide this data if it can stay confidential with BTA.

MS. BRADFUTE: Yeah. We can go through the confidential procedures if Mr. Feldewert would prefer we do that. That's available.

But as far as foundation goes, he testified it's within a ten-mile radius of the project area and that this information was compiled from company business

records and under his supervision and direction. So he has laid a foundation for the admission of this exhibit. What weight the Examiner wants to give it is up to the discretion of the Examiner.

MR. FELDEWERT: Well, I disagree. I don't think he's laid any foundation for this exhibit. They're going to come in and say, Well, we're going to cherry-pick data from somewhere here on Exhibit Y within ten miles, and we're not going to tell you how we did it, and we're not going to tell you what the data is. So I object to the admission of this exhibit.

EXAMINER BROOKS: What exhibit are you specifically objecting to?

MR. FELDEWERT: It would be FF6, which corresponds with Exhibit DD.

MS. BRADFUTE: Yeah. It's -- yeah. If you look at DD, David, that's the easiest.

EXAMINER BROOKS: Look at what?

MS. BRADFUTE: Look at DD, David, David.

EXAMINER BROOKS: DD.

EXAMINER JONES: I think you can figure it out if you remember his testimony.

EXAMINER BROOKS: Yes, Exhibit DD.

MS. BRADFUTE: Yeah.

And if the Examiner has sufficient

information to deduct and reason, the Division has not historically followed the rules of evidence when admitting information and has taken a more holistic view of considering all the data and information provided by the parties.

MR. FELDEWERT: Oh, I have never seen the Division allow somebody to come in and create a chart and create lines and not provide the data or indicate where the data came from. I've never seen that.

EXAMINER BROOKS: Is Exhibit DD the one you're objecting to? I mean, I'm trying figure out.

MR. FELDEWERT: Yes, sir.

EXAMINER BROOKS: Okay. So Exhibit DD is what you're objecting to?

EXAMINER JONES: Same as F6 -- FF6.

EXAMINER BROOKS: Okay. Well --

EXAMINER JONES: It's not explicitly written on there what well it's from.

EXAMINER BROOKS: Exactly. And in addition, the consideration comes in that experts can testify from inadmissible evidence, and we have a procedure -- we have some procedures for pretrial discovery, although they're very limited.

But this could be taken up if want to pursue it, Mr. Feldewert, but I think I'm going to admit

it for present purposes. And, you know, if you want to file a request for additional data to be furnished confidentially, I think we can take this -- this case under advisement again -- or delay -- continue this case for another brief period to resolve that if necessary. I don't -- I'm not sure how heavily it weighs in the case. And we will only give it such consideration as it's entitled to. And I'm not sure that it's all that much different from evidence we've heard in other cases, so that it makes it -- I'm not sure it's a critical exhibit. But that's my ruling. I think we should allow it in for whatever weight it has.

EXAMINER JONES: It depends on whether your client really wants this to be in there or --

MS. BRADFUTE: Marathon received management approval to include this in the record, this information, but --

EXAMINER JONES: But they received it without naming the wells on it.

MS. BRADFUTE: Yes. We would need more confidentiality protection in place to provide additional information as far as the naming of the wells on the actual exhibit.

EXAMINER JONES: Yeah. That would mean that the parties to this case will figure it out and

could find out, but it wouldn't be in the record.

MS. BRADFUTE: Yeah.

EXAMINER JONES: So it still would go to the parties in the case.

MS. BRADFUTE: Yes.

EXAMINER JONES: It sounds like management didn't want it to be --

MS. BRADFUTE: Yes. And we can do that provided the hearing examiner can still consider this data when you're rendering your decision in the case.

EXAMINER BROOKS: What's your view, Mr. Feldewert?

MR. FELDEWERT: Well, you can give it, I guess, whatever weight you want.

My point here is that they have utilized information that they fail to disclose. Okay? So when he sits here and says they have hard facts, where are the hard facts? Where are the hard facts? And they're introducing exhibits where they've got a bunch of lines and a bunch of dots. They don't tell you where the well is, and they don't tell you what area is involved, and they don't even tell you the section. So it gives us no opportunity to evaluate the information.

And I have been in cases where yes, we were going to use proprietary data to come in with hard

facts. Potash is a great example, to come in with hard facts to demonstrate our case. Okay? We don't come in with just lines and dots and then hide what they actually log. And that's what they're doing here, and I think that's wrong. But you can give it whatever weight you want.

EXAMINER BROOKS: Well, I think that's the best solution, that we just admit it and give it whatever weight that we feel it's entitled to.

Of course, it's really your (indicating) call because there is no clear legal rule here.

EXAMINER JONES: There are several clues on here, and, plus, what he said earlier about where the blue wells came from. I mean, you can -- it's all in one half section of land. So I think it could be figured out, but I don't know why they didn't go ahead and put it on there.

MS. BRADFUTE: Yeah. And, you know, within different companies, there are a lot of internal procedures.

EXAMINER JONES: Yeah. So I don't know if you really want this to be -- if you really think -- you know, if management was halfway worried about it, I don't know why they're not all the way worried about it. And he's got a point that, you know, if you're going to

show it, probably should go ahead and put the names of the wells on it. But I'm not the legal --

EXAMINER BROOKS: Well, the law on the subject is very unclear because we have a -- we have a provision in our rules that we're not bound to follow -- we can consider the rules of evidence, but we're not bound to follow them. And I don't know what that means. It sounds to me like maybe we can do whatever we want.

MR. FELDEWERT: That's kind of -- you're right. You can do whatever you want.

EXAMINER BROOKS: It doesn't build an error into anything because if you get permission, you can start all over again and -- both parties will start all over again, and it won't -- whether something is admissible at the Commission doesn't have anything to do with whether the Division admitted it or not.

EXAMINER JONES: But one issue is that, you know, this could set up some sort of precedence for evidence to be admitted that was -- shouldn't -- should clearly not be considered in the case.

EXAMINER BROOKS: I think we should --

Well, it's your discretion. Do you think it should not be admitted? I can see the argument for that.

MS. BRADFUTE: Mr. Examiner, I did confer

with my client. They are fine with admitting this exhibit, and we're also fine pursuing the confidential procedures if the Division wants additional information for that. And we can do that pretty quickly. I'm going to be out of town the first three days of next week, but we would prefer to have this information and data in the record.

EXAMINER BROOKS: Can we get it wrapped up by July the 26th?

MS. BRADFUTE: Yes.

EXAMINER BROOKS: I think that's the best course to pursue, then, because I don't want any presumption about how we considered it to influence either side --

MS. BRADFUTE: Uh-huh.

EXAMINER BROOKS: -- whether we considered it or didn't consider it, you know. That could lead to speculation on the basis of our result that could not be accurate -- or might or might not be accurate.

MS. BRADFUTE: Okay. So we would like to tender it into the record today, and then we'll pursue the confidential procedures to put the additional information into the record next week -- late next week.

EXAMINER BROOKS: Yeah. And if Mr. Feldewert ends up objecting -- if you don't produce

the confidential data and Mr. Feldewert wants to renew his objection of the exhibit at that time, we'll consider it. Because you have the burden of proof if you want to make it confidential. And, of course, you can always agree on a confidential -- agreement between yourselves, which will solve the discovery problem without disclosing it to the OCD. If you're going to put it in the record, though, the additional information they request, then we've got to deal with the question of whether there is really something involved.

EXAMINER JONES: Okay. Is there any objection to EE or the other portions of FF?

MR. FELDEWERT: No, sir.

EXAMINER JONES: None?

MR. BRUCE: No.

EXAMINER JONES: Okay. Exhibit EE is admitted.

(Marathon Oil Permian, LLC Exhibit Letter EE is admitted into evidence.)

EXAMINER JONES: And Exhibit FF, except for number -- page 6 --

MS. BRADFUTE: It's a duplicate of DD, so it would be admitted the same way as DD was admitted.

EXAMINER JONES: I said EE.

MS. BRADFUTE: Oh, EE. I'm sorry about

that.

EXAMINER JONES: EE is admitted.

And FF is admitted except for page 6, and -- FF, page 6.

(Marathon Oil Permian, LLC Exhibit Letter FF, pages 1 - 5 and 7 - 8 are offered and admitted into evidence.)

EXAMINER JONES: And EE will be pursued through the --

MS. BRADFUTE: And those exhibits are admitted today into the record, and we'll provide additional information through the confidential procedures.

EXAMINER JONES: Oh, gotcha. Okay.

EXAMINER BROOKS: Okay. As of what time?

MS. BRADFUTE: We'll pursue -- it'll be -- I'm going to be in Houston through Wednesday, so if it could by Friday afternoon.

EXAMINER BROOKS: By Friday, the 19th?

EXAMINER JONES: So it sounds like you're going talk to management again. They could just say, The wells are from right here.

MS. BRADFUTE: Yes. We just have to get approval.

EXAMINER BROOKS: If they want to contest

it, then what? Then we're going to -- we're going to continue this case until the 26th --

MS. BRADFUTE: Yes.

EXAMINER BROOKS: -- to the regular docket on the 26th. But if we have to do a privilege review, then it will have to be set for a special hearing.

MS. BRADFUTE: Yes, I believe so.

EXAMINER JONES: Mr. Bruce.

MR. BRUCE: I think you said Friday, the 19th. It will be Friday, the 20th.

EXAMINER BROOKS: Friday, the 20th. That's right. The 19th is not Friday. So I was specifying --

EXAMINER JONES: Are we going to Friday again (laughter)?

EXAMINER BROOKS: I was in denial about the fact that this is Friday, the 13th. But no, we're not setting a hearing. We're just saying report back on Friday, the 20th, and the case will be continued to Thursday, the 26th, hoping you-all will work out some kind of deal with this between now and then that doesn't involve us --

MS. BRADFUTE: Yes.

EXAMINER BROOKS: -- and doesn't require something to come to another hearing.

THE WITNESS: For clarification, you'd like

the well names and the well locations to be released?

MR. FELDEWERT: For the -- that comprises the data, that comprises the information on that exhibit, yes.

THE WITNESS: Okay. The well names for the wells shown in Exhibit DD?

MR. FELDEWERT: And the tabular data.

MS. BRADFUTE: I'm sorry. I didn't hear you, Mike.

THE WITNESS: The production data?

MR. FELDEWERT: The well location and the data that was utilized to create the exhibit.

THE WITNESS: The production data?

MR. FELDEWERT: The data that was utilized to create the exhibit.

THE WITNESS: May I ask a question?

EXAMINER BROOKS: You have production -- the production data would be public; would it not?

THE WITNESS: The data would not.

EXAMINER JONES: A little bit out of data --

MS. BRADFUTE: It will eventually all be.

EXAMINER JONES: But if they need to --

EXAMINER BROOKS: Are those wells so new that there would be significant production data that

would not be disclosed?

THE WITNESS: So the wells shown in red have been producing, as shown on the chart, for about 70 days.

EXAMINER BROOKS: Oh, okay.

THE WITNESS: So the data being three, four months behind, you won't see anything in the public domain for another couple months. And even then, it will take another two months to obtain the data shown here.

EXAMINER BROOKS: Well, if you-all can't work it out, then we'll just have to have another hearing on it.

EXAMINER JONES: Mr. McQuien has probably already figured out which wells are --

MR. FELDEWERT: For seven days or 70 days?

THE WITNESS: 7-0 days.

MR. FELDEWERT: 7-0.

EXAMINER JONES: Do you pass the witness?

MS. BRADFUTE: Yes.

EXAMINER JONES: We're admitting everything so far, but they're going to go through the confidentiality procedures for FF, page 6.

EXAMINER BROOKS: We conditionally admitted documents of Exhibit EE and page 6 of Exhibit FF; is

that correct?

MS. BRADFUTE: DD. Yes, David, David.

EXAMINER BROOKS: Oh, it's DD.

EXAMINER JONES: DD.

EXAMINER BROOKS: But EE is admitted?

EXAMINER JONES: Yes.

EXAMINER BROOKS: DD is admitted conditionally. FF is admitted unconditionally, except for page 6, and conditionally as to page 6.

EXAMINER JONES: Okay. I stand corrected.

EXAMINER BROOKS: Well, no. I'm not sure you were corrected. I think you were right. I was the one who stands corrected. It doesn't matter. I think we've got it clear with the court reporter; have we not?

EXAMINER JONES: Go ahead.

CONTINUED CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Alekseenko, would you turn to Exhibit Y? Now, you talked about wanting to rely on hard facts. Did you -- the company has some frac models within the area encompassed within Exhibit Y, correct?

A. Yeah.

Q. But you didn't bring those today?

A. Those were not deemed critical and, hence, were excluded. Furthermore, that was sensitive, confidential

information, and we decided to maintain that confidentiality.

Q. Now, the areas that we see with stars around that map -- do you see that?

A. In 22-26? 22-27? What area?

Q. 23-27 up there.

A. 23-27. The star in Section 9 or in Section 5? Which one?

Q. I don't know where the star's at. I'm talking about that area. Did you bring any data from that area?

A. No, sir. No -- although let me walk that back. I think if we were to go and handpick, Is this this well; is this this well; is this this well; is this this well, that will take the confidentiality of what is shown in Exhibit DD out. So I cannot answer one by one, Is this the well you showed, is this the well you showed, is this the well you showed? That will take the confidentiality out.

Q. That area up there, 23 South, 27 East, with the star was the study well, correct?

A. Yes, it was.

Q. And you didn't bring that information?

A. I cannot answer this question without -- without taking the confidentiality out of Exhibit DD that was shown earlier.

Q. Where are the other study areas here?

A. We conduct -- we collect quite a bit of data on pretty much every well we drill and complete. We collect data on every one.

Q. Did you bring any of that data here today?

A. No, we have not.

Q. Okay. Let's see if we can -- I want you to turn, then, to Exhibit -- BTA Exhibit 21. I want to see what we can agree on, you and me. Okay? We both agree now on the same spacing units, mile-and-a-half or --

A. That never was in question, but correct.

Q. Okay. We agree on the well length?

A. Again, never was in question. Yes, we do.

Q. No real issues on the well costs?

A. After you walked back and addressed our concerns, no.

Q. Okay. And if we look at the zones that are being targeted by the initial development plan, okay, we have -- both parties have wells in the 3rd Bone Spring, right?

A. Your initial plan does not include 3rd Bone Spring Lower wells.

Q. The 9H and the 10H for the spacing unit?

A. They were not part of the initial plan.

Q. Well, I'm going to represent to you -- we've

been here all day -- those are the wells proposed for the 9H for the Bone spacing units, right?

A. Do you have APDs in place for 9 and 10?

Q. And, Mr. Alekseenko, we have the 6H and the 5H in the Wolfcamp Sand, and you-all have the 12H and the 17H, correct?

A. Correct.

Q. Okay. And BTA has proposed wells for the 7H and the 8H down in the Wolfcamp D, and you have your four wells there?

A. Yes. You have about half the wells that are necessary for the horizon, but --

Q. And you mentioned -- the other difference would be the 14H, and you said you wanted data before you got the location decided on that particular well?

A. That is correct.

Q. And that could likewise be a well that BTA could subsequently drill within the Wolfbone spacing unit?

A. We were not made aware of the plans to drill the 14H, similarly -- similar to the situation that arose in the Wolfcamp B [sic], were only proposed after we brought those concerns forward. 3rd Bone Spring Lower wells were proposed only after we brought those concerns forward. So it wouldn't surprise me that BTA

would fast-forward in proposing Wolfcamp A wells here. And we'll be happy to continue to education, whatever is necessary for what's needed for this rock.

Q. Once these Bone Spring spacing units are formed, BTA could also then propose additional wells up there in the 2nd Bone Spring, correct?

A. That is correct.

Q. Okay. And when you look at the Wolfcamp D, instead of four wells, BTA has proposed two?

A. That is correct.

Q. Okay. And the 7H, is it the same location as the 11H?

A. There might be some vertical displacement. I'm not quite sure. I haven't compared permits. Visually, they're very close. There is a little bit of a vertical offset between the 7H and the 8H.

Q. And the 8H is basically the same location as the 6H -- 16H?

A. Again, there is a little bit of a vertical offset between the 8H and the 16H.

Q. And so if it was deemed necessary to infill the Wolfcamp D, BTA would be able to drill the infill wells there as well, correct?

A. You would be able to drill the wells, but the performance of those wells is the question that is

burning in our minds.

Q. So as I understand it, your true concern is really the density or the spacing of the wells --

A. You got it.

Q. -- in each zone, right?

A. You got it.

Q. Okay. And here's what I'm trying to figure out, where I got confused. When do you think it's appropriate to have eight wells per section?

A. It's -- it's not fast and easy, Mr. Feld- -- Feldewert.

Q. Just call me Mike.

A. Mr. Mike, it's not fast and easy. There are a lot of variables that go into play. You've got to bring volumetrics into account. You've got to look at the thickness of the rock, the permeability, the brittleness. You've got to, again, collect an extensive amount of information. Even if I knew everything that's required to determine accurate spacing, I would not be able to articulate it to you within today's time.

Q. Well, you had an exhibit, FF7, that says "at density versus not at-density development," correct?

A. Yeah.

Q. And you represented that in your opinion, at density is eight wells per section?

A. This was, again, as I testified, for illustrative purposes, and the key here was that all wells are brought on line at the same time. Proper well spacing is determined ahead of time. And it's never a question of what is the proper well density. It's really a question of once determined what the optimal well spacing is, you go after the horizon and you develop it all at once, minimizing the parent-child effects, minimizing frac hits, et cetera.

Q. When do you believe that the spacing should be three wells per section?

A. It is our current view that Wolfcamp Sand and 3rd Bone Spring Lower and the Wolfcamp Upper should be developed by three wells per section each, and that is reflected in our development plans.

Q. Okay. And so in your opinion, when it comes to the -- now, which zone do you think should be three wells per section?

A. 3rd Bone Spring Lower, Wolfcamp Sand and Wolfcamp Upper that controls Wolfcamp A.

Q. And then all of the other zone you think should be at eight wells per section?

A. For the purpose of this hearing, I think Wolfcamp B [sic] is the only relevant one, and our view is eight wells per section in that horizon.

Q. Have you examined the results of Matador's experiment with your tightly spaced eight wells per section in the nearby area, Sections 25 and 24?

MS. BRADFUTE: Object to form.

Q. (BY MR. FELDEWERT) I'm talking about BTA's Exhibit 37. Have you examined those wells in Section 24 or Section 25?

A. I haven't looked at them recently, but I have, at one point in time, no doubt looked at them.

Q. Okay. And you haven't -- you don't know the frac lengths or you haven't presented any data to present the frac lengths of Marathon's proposed wells?

A. That is confidential information.

Q. So you can't tell us the frac lengths, either horizontal, vertically?

A. That is confidential information. Correct.

Q. Okay. Now, Marathon's been in the Delaware Basin here in New Mexico for about a year; is that right?

A. A little over a year. We're coming up on a year last time.

Q. May of 2017 is when you entered the basin, right?

A. Yeah.

Q. Okay. A little over a year.

And operators such as COG and Matador and Mewbourne have been operating in this area much longer, right?

A. Yes. And we went through this discussion last time.

Q. In fact, you said you believe that Matador and Mewbourne were the most active operators in this area?

A. Historically, yes. This is about to change, as you see from our Exhibit Y.

Q. And you agree with me that not a single operator in this area has developed the Lower Bone Spring and the Upper Wolfcamp with the density and spacing pattern as you suggest is necessary?

A. In the immediate vicinity, I have seen a slightly tighter density in Wolfcamp Sand than we're proposing. I have not seen, you know, the comprehensive plans that would mimic ours.

Q. So operators like CAZA, Chevron, COG, Matador and Mewbourne have not chosen to develop their acreage like you suggest is now necessary?

A. That is correct.

Q. Okay. And you agree with me that the BTA development plan here and their pattern is consistent with what Mewbourne has done in this area?

A. I think at one point you had an exhibit that

showed me, and I would like to quickly examine that because I don't remember this off the top of my head.

Q. Is it your understanding that BTA's plan is consistent with what Mewbourne has done in this area?

MS. BRADFUTE: Do you have an example you could point him to, Mike, of Mewbourne's plan?

THE WITNESS: What I see on the map is a lot of leasehold activity by Mewbourne. I do not see a density development. So yeah, BTA's plan is consistent with leasehold.

Q. (BY MR. FELDEWERT) So you've testified and you agree that BTA's development plan is consistent with what Mewbourne has done, pattern and density?

A. I do not think that Mewbourne's development to date gives us any clues about their views on proper well spacing. What they have done to date is drilled the wells to hold the leases. We don't know what they're using density on. I can only assume what they think is the proper density.

Q. Let me see what your -- how far you think we should go here, Mr. Alekseenko. Do you believe that the Division should mandate codevelopment of the Lower Bone Spring and the Upper Wolfcamp zones to prevent waste?

A. I have no opinion on what the Division should or shouldn't do.

Q. Do you think every operator in this region should codevelop the Lower Bone Spring and the Upper Wolfcamp zones to prevent waste?

A. This is a free country, Mr. Feldewert.

Q. What's your opinion?

A. Everybody should do what makes them happy or makes them money.

Q. Do you think the Division should continue to treat this area as two separate pools?

A. It's a hard -- it's a hard question, and I think it's a decision that the Division needs to make, not me.

Q. And I think you -- do you think the Division should mandate more than four wells per section?

A. I think the Division should always go back to prevention of waste, protecting correlative rights. And it, again, is not a hard-and-fast rule. Every case is going to be different. And I think, frankly, I lack expertise in what the Division's responsibilities are. I'm here contesting a hearing with you for the second time. I love the experience here, love the questions, but I'm utterly unqualified to tell the Division what to do.

Q. And you would agree with me that people can come up with different opinions, right, how their

acreage should be developed?

A. Yes.

Q. Okay. Look at the geology, come up with different opinions about whether there should be codevelopment or not?

A. There are many opinions, and those should be influenced by facts, but absolutely.

Q. And, for example, people -- like what's reflected in BTA's Exhibit 38, where they disagree with your proposition that you need more than four wells per section, there are people that disagree with that, right?

A. There are people that examine acreage in Texas, which is the case in that paper, and came to the conclusion that a different well density is appropriate there, as you've asked me several times.

Q. Are you familiar with this paper?

A. I've -- from today's testimony, yes.

Q. Have you read it before?

A. No.

Q. Oh.

A. Do not know where Shell's acreage is.

Q. So have you disagreed with their position expressed in this paper?

A. What I know is that Shell has no presence in

New Mexico.

Q. Okay. Now, no matter which development plan is implemented, the one thing that is true is that BP would be required to fund over 70 percent of the drilling and completion costs for the --

A. If you choose to consent in the well, yes.

Q. And if they don't choose to consent, then they will be subject to a 200 percent risk penalty on their 70 percent share of costs?

A. I'm not aware of the terms, but it sounds about right.

Q. Okay. Then Marathon, on the other hand, on whatever development plan is put together here, will only foot the bill for less than 30 percent?

A. We have stated before how we view this density discussion, and our view is that our plan is the one that prevents waste.

Q. Okay. That's all the questions I have.

EXAMINER BROOKS: I have no questions.

(Laughter.)

EXAMINER JONES: Mr. Bruce?

CROSS-EXAMINATION

BY MR. BRUCE:

Q. I'll start out with one.

EXAMINER BROOKS: I'm sorry. I forgot

about Mr. Bruce.

MR. BRUCE: I'm easy to forget.

Q. (BY MR. BRUCE) You said Mewbourne is -- leases. Are you aware -- if you look at Exhibit Y, this area is littered with old deep gas wells, Morrow and Atoka wells?

A. Are you referring to vertical wells, or are you --

Q. Vertical wells.

A. Yeah. I'm sure there are many. Yeah.

Q. And are you aware that those wells were spaced on 320 acres?

A. I'm not aware of their spacing and whether or not they were spaced on 320.

Q. And do you know that Mewbourne has been out drilling vertical wells here in this area and all over Eddy County since the mid-'70s?

A. I'm not aware if this is true or not, but -- I'm not aware of this.

Q. And so if that was true and they had vertical wells, that acreage was HBP'd for a long time?

A. I'm not sure of the lease terms.

Q. And my question is: How do you know that Mewbourne is simply drilling --

A. So Mr. Feldewert asked me about density

patterns of Mewbourne, and I, frankly, do not see at-density development by Mewbourne.

Q. Well, that's not my question. You said Mewbourne is simply drilling to hold leases. Do you have any evidence of that?

A. That was a speculation and assumption. It was based on the premise that I do not see at-density development in play here.

Q. Let's turn to Exhibit -- turn to Exhibit FF, page 4 and look to the left side of this where you've got the Quarter 1-2015 and on down to Quarter 3-17.

A. Pardon me. Looking at FF, page 4, "Delaying offset development leads to waste in Lea County"?

Q. Yes.

Over where you've got the timeline and then the drilling of the wells -- and I'm asking because I don't understand -- I just don't know. Those gray wells -- black to gray, are those all in a half section of land?

A. Yes. Correct. These are -- I think these are old one-mile laterals.

Q. Okay.

A. So what's represented is full-section well.

Q. And then the wells that are in green are in another half section of land?

A. Correct.

Q. And then, finally, the red circle and the pink square, are those Bone Spring wells or one Bone Spring and one Wolfcamp?

A. The square is a Bone Spring -- 3rd Bone Spring, and then the circle is a Wolfcamp.

Q. Ignore the red and pink.

A. Okay.

Q. And then look at the -- if it's west half and east half of the section, look at the west half of the section and then your cumulative production map. If you go over to the right, the first well drilled in Quarter 1-2015, of the four wells in that half section, it looks to be one of the quarter wells in that section, right?

A. I'm sorry. I'm not following the question. Would you mind restating?

Q. The first well drilled, Quarter 1-2015 --

A. Okay. The black circle. Yeah. Uh-huh.

Q. -- that's one of the poorer wells in that half section, isn't it?

A. It is correct, because of understimulation.

Q. And the well drilled substantially later is one of the better wells?

A. Because of the completion of -- over that

period of time, yes.

Q. Which I remarked to the Examiner that's why we need information on the dates of completion, et cetera, et cetera, with respect to some of this data because we don't have it in front of us to look at. And that's just my comment. You can respond to me in a minute.

But then looking at the east half of this section, it's kind of the same thing. They were all completed at the same time, apparently, roughly the same time, but the well that was -- there is quite a variation in the productivity of those four wells; is there not?

A. Absolutely. And with regards to completion information, production information, that information is publicly available. Similar to BTA's Exhibit 37, page 2, where Wolfcamp Sand completions were shown, no completion data was present, just well names, and that is the approach we're taking here as well, consistent with yours.

Q. That's fine.

But what I'm saying is, especially when you look at the green wells, there is quite a -- even though they were completed at the same time --

A. Uh-huh.

Q. -- there's quite a variation --

A. Yeah.

Q. -- in their productivity?

A. Yeah, absolutely.

Q. Okay.

A. And these wells are staggered a little bit, you know. There is a little bit of wine rack going on, so it's not surprising that there will be some variation in the well performance. You know, rock is not homogeneous, as I'm sure you are aware. It changes.

Q. And then just one final item and maybe we can get the heck out of here after Mr. Jones.

(Laughter.)

EXAMINER JONES: As he goes on for 30 minutes.

Q. (BY MR. BRUCE) Page 7 of Exhibit FF, you're talking about the -- the production from the wells. But if you're drilling eight wells, as shown on the left side, and just assuming this is Wolfcamp --

A. Uh-huh.

Q. -- your AFEs are about 8-1/2 million bucks. And I'm doing it in my head. That's $68 million for eight wells. I know that because I used to be an engineer.

A. Yeah. It's 64 million. Correct.

Q. And so if you only have four wells, that's

34 million.

A. Correct.

Q. Have you looked at the economics about what is exactly going to be produced to know whether you're really getting that big of an advantage --

A. Absolutely.

Q. -- getting money earned?

A. Absolutely. What we looked at is MVD [sic] per section, and we look to maximize that number.

Q. But that data isn't given here. It's just a cartoon saying to drill more?

A. Mr. Bruce, with all due respect, our -- our -- I think there might have been some different opinions on what my responsibility coming here is. I don't view it as a data room, and even the -- I have, again, a fiduciary responsibility to my shareholders, and, first and foremost, that's making money. And making money requires staying ahead of our competition.

Q. And if you're coming out in a public forum, you have to show the data so that the Examiners and the other parties, the other companies know whether what you're doing or what you're proposing is correct for the best interest.

A. Again, we have not received any analysis from BTA suggesting four wells per section is the optimum

density, so I'm not sure how this argument can be used against us.

MR. BRUCE: Pass the witness, Mr. Examiner.

EXAMINER JONES: Mr. Brooks?

EXAMINER BROOKS: No questions.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. Okay. It sounds like smaller pad size is for your frac jobs, get some sand out there before -- before the water breaks into the -- the lower-pressure offset well or something. I'm sure they're trying -- they're trying everything, I'm sure.

A. Yeah. The problem is your drilling cost is roughly 2-and-a-half million. Your completion is 5.

Q. So you don't want to sand out?

A. Well, you -- you -- you can lower the sand, but your well costs will only get dropped down by 25 percent. Let's say you lower the sand by 50 percent, your total well costs --

Q. You were saying earlier that the pad --

A. Oh, fluid --

Q. The pad will break in --

A. Yes.

Q. -- and then it will perform a preferential flow direction and carry the sand the wrong way or something.

A. Yes.

EXAMINER BROOKS: Be careful about talking over one another. The court reporter is probably as tired as I am.

EXAMINER JONES: She might hit me.

THE WITNESS: Or me or both (laughter).

Q. (BY EXAMINER JONES) I'm real excited for your one well you proposed in that upper -- extreme Upper Wolfcamp small, little sand area. I think you've got a good --

A. The 14H or the -- the Wolfcamp Upper?

Q. Yeah. The one that I should have asked you about in April, you know, that one is going to be in that real small sand zone, is that correct, the upper -- extreme Upper Wolfcamp?

A. Yeah. It's Upper Wolfcamp. It's kind of a sandy shale. I'm not a geologist, so I'll probably misspeak. It's not exactly shale. It's not a sandstone.

Q. That sounds like -- it sounds like it's also close to the unconformity between the Bone Spring and the Wolfcamp, too, which is always a good thing. But it seems like it's close to 15H, so what's up with that?

A. It is. But, you know, this is not exactly drawn to scale. If we refer to BTA's Exhibit 21, the

infamous one, the Wolfcamp -- the 3rd Bone Spring is about 50 foot -- the Lower 3rd Bone Spring is about 50 foot thick. The Wolfcamp sands are about 100 foot, and the Upper Wolfcamp is another 100 foot. So there is about -- just top to bottom, there is about 150 foot separating that sandy shale and the 3rd Bone Spring Lower.

Q. Okay. So this Number 21 is more to scale? I mean Exhibit 21.

A. It's not as much as it's to scale, but it has the thicknesses of each horizon. That's why I was referring to it.

Q. Okay. And with BTA proposing now the four wells up in the north and Marathon proposing four wells in the north, it sounds like that might be one of the determining factors as to who gets the surface location approved by the landowner. I asked the geologist about that.

A. That super pad?

Q. The super pad.

A. Yeah. I'm not familiar with the discussions around our pad placement.

Q. You're a reservoir engineer. I understand that. Yeah. Years ago, they made the decision to not require pressure data anymore on gas wells in

New Mexico. So there you go.

A. Interesting.

Q. Open it up to the wild, wild west, and we'll see who can keep from causing waste.

That's all the questions I've got.

EXAMINER JONES: Any more redirect?

MS. BRADFUTE: Yeah. I'm sorry. I know everyone's ready to go home, but poor Mr. Alekseenko was a little double-teamed here.

REDIRECT EXAMINATION

BY MS. BRADFUTE:

Q. So I want to walk back through some of BTA's and Mr. Keren's exhibits with you, Mr. Alekseenko. If you could please look at Mr. Charuk's Exhibit Number 3, which is a cartoon that Mr. Charuk prepared and presented.

A. Yeah. I'm sorry. I was like Keren, maybe? Let me locate that. I'm not sure if I can find it. I'm aware of what's shown there.

Q. It's a very simple bar. I can hold it up. Mr. Alekseenko, does this cartoon provide any data that went into creating this exhibit?

A. Does this cartoon provide -- I'm sorry.

Q. Any underlying data that went into the creation of this exhibit?

A. No. That was a mystery, and I tried to solve is it, unfortunately unsuccessfully. This is a puzzle, and this was admitted somehow.

Q. Yeah. Did Mr. Charuk provide underlying data for each well that you reviewed when he put this bar chart together to present to the examiners today?

A. No, he did not.

Q. Okay. And yet Mr. Bruce did present this exhibit as evidence in this matter today, correct?

A. Yes, he has.

Q. Okay. I want to now turn to BTA's exhibits, and I want to turn to the first book of exhibits from April 24th.

MR. FELDEWERT: Now you're going way back.

MS. BRADFUTE: We are.

MR. FELDEWERT: How long are we going to do this?

Q. (BY MS. BRADFUTE) I want to look -- it's the book that starts with Exhibit Number 1 from the April 24th hearing, and we're going to start --

A. Which part of the exhibit?

Q. Look at Exhibit 16.

A. Sorry. I'm losing focus a little bit.

Q. That's all right.

Exhibit 16. Is Exhibit 16 a chart that was

prepared by BTA and presented in testimony during the April 24th hearing?

A. Yes, it is.

Q. Okay. And this chart lists well names, correct --

A. Yes, it does.

Q. -- on it?

Do you remember BTA bringing the well data to the hearing for each one of the wells listed in this chart?

A. That data has not been presented either. I'm certain that completion data was not presented. Spatial data may have been presented.

Q. Okay. And I'm sorry. Just a point of clarification. What do you mean by spatial data?

A. I'm looking at Exhibit 15, and it may or may not show all the wells in question here.

Q. Okay. So they might have shown the location of all the wells, but they didn't provide the completion information for all of the wells depicted in that chart?

A. Correct.

MR. FELDEWERT: You mean it would be public data.

MS. BRADFUTE: Well, we'll get to that in a minute.

MR. FELDEWERT: Right?

MS. BRADFUTE: Yeah.

MR. FELDEWERT: These are all old wells. There's public data out there. We know that from the wells.

MS. BRADFUTE: Yeah. There's public data in Marathon's --

MR. FELDEWERT: And this is the one-mile versus one-and-a-half mile.

EXAMINER BROOKS: Please don't talk over one another.

MS. BRADFUTE: Okay.

Q. (BY MS. BRADFUTE) And I believe there was no indication during the April 24th hearing that BTA had any -- had brought any volumetrics data, any per-foot-of-lateral data with it to that hearing when it presented this exhibit, correct?

A. No. Even today, they testified that volumetric data is really hard to get.

Q. Okay. And so BTA has also presented data -- or charts, cartoons at this hearing without providing all the underlying data to the examiners as well?

A. Correct.

Q. I want to next look at BTA's Exhibit 33, which is in the notebook they presented today.

EXAMINER BROOKS: 33?

MS. BRADFUTE: 33.

Q. (BY MS. BRADFUTE) BTA presented this graph. I guess it's maybe a map or a chart or a diagram of an area related to cross sections that have presented for its frac model, correct?

A. Yes.

Q. Did BTA present any geologic information that supported -- supported the structure underlying these areas when it presented this exhibit?

MR. FELDEWERT: That's in Exhibits 34 and 35?

MS. BRADFUTE: Those are cross sections, but where's the structure -- the geologic structure information within this exhibit?

MR. FELDEWERT: Supporting well logs, right?

THE WITNESS: So -- yeah. This was just, yeah, about cross section that encompassed about 50 miles' worth of rock between New Mexico and Texas, and all that was provided along with it was three handpicked well logs along that cross section.

Q. (BY MS. BRADFUTE) Okay. And that's a chart that they prepared as a visual aid to help today as they presented their testimony, correct?

A. Correct.

Q. Let's turn to Exhibit Number 34. Did BTA present information related to completion data for the wells shown in this cross section in 34 with it today to the hearing?

A. No.

Q. And the same is true for Exhibit 36 and -- the same is true for that Exhibit 36, correct?

A. Yes. No completion data was presented in either of the three maps contained in Exhibit 36.

Q. I want to turn to Exhibit Number 37. BTA did not even label the wells depicted in Exhibit Number 37 to indicate which wells are shown within this exhibit, correct?

A. Correct.

Q. Okay. Yet it asked us to assume that the wells in Sections 24 and 25 were operated by Matador, correct?

A. Yes.

Q. Okay. And I believe Mr. Feldewert asked you questions earlier about the wells in Sections 24 and 25 and whether or not they were the same density that Marathon is proposing for its Wolfcamp D wells; is that correct?

A. Yes.

Q. But, in fact, BTA's witnesses testified earlier

today that the wells in Sections 24 and 25 are Upper Wolfcamp wells, correct?

A. Those are depicted as Wolfcamp Sand completions.

Q. That was the testimony today?

A. Yes.

Q. But we have no information from this cartoon that would tell us anything about where these wells are drilled or which formations they're in?

A. That's correct.

Q. So BTA also had several exhibits that it didn't bring underlying data and information for, correct?

A. Yes.

Q. I want to look at Marathon's Exhibit FF. Exhibit FF was compiled using public data primarily for 320 different wells, correct?

A. Correct.

Q. Okay. So similar to the exhibits that BTA presented, it's based on public data to provide a summary or an analysis for the hearing examiners to look at as testimony presented?

A. That's correct.

Q. If you look at page 2 of FF, it lists the Rattlesnake wells by name, and the information for the Rattlesnake wells is public information?

A. Each well is uniquely identified, and that information is available in the public domain, correct.

Q. In fact, the majority of other pages within this exhibit all list the specific wells?

A. Except for the page where information is confidential.

Q. Confidential.

In fact, all of the other pages list the specific wells used to create the data plots, and the information for those wells is public information, correct?

A. Yes.

Q. Okay. So that information could -- is easily ascertainable both by BTA and by Marathon throughout this hearing, and it's no different than the charts and graphs that BTA put together in which it listed wells with publicly available data, correct?

A. Yes.

Q. Okay. Mr. Alekseenko, today has been a long day, and I just want to summarize.

In your opinion, it is important to codevelop the 3rd Bone Spring Sand and the Upper Wolfcamp Formation in order to avoid waste, correct?

A. Correct.

Q. That is Marathon's opinion after reviewing and

studying the area?

A. Yes.

Q. Is it also Marathon's opinion that it's important, when possible, to avoid drilling child wells and direct offset wells when the wells can be drilled and then concurrently completed together?

A. It's undisputable that child wells result in waste. They result in reduced revenues for the operator and result in reduced royalties for both the State and mineral rights owners. It's clear.

Q. And finally, it's important to properly space wells within each subformation in order to optimize recovery, correct?

A. Correct.

Q. Is it your understanding that the Division's primary concern in deciding development patterns is the prevention of waste?

A. That is my understanding. Yes.

Q. And so Marathon's primary objective here is aligned with the Division's concern, right?

A. Yes.

Q. Marathon wants to seek the prevention of waste in this case, right?

A. Yes.

Q. Marathon objected to BTA's Wolfcamp application

for the Wolfcamp, the Ogden 5H and 6H wells, initially because it was just two wells, right?

A. It did not develop acreage adequately in our view, and, therefore, we objected to it.

Q. And then Marathon actually presented alternative development plans for the area, which included the 3rd Bone Spring Sand and the Lower Wolfcamp portions, right?

A. Yes.

Q. And while BTA has tried to mimic portions of Marathon's plan, it has not completely agreed with Marathon's development plan, right?

A. Yes. And furthermore, we did not get a sense that BTA was open to seek our input and understand why we're trying to develop acreage in a certain way.

Q. We heard a lot of testimony about costs related to having to drill additional wells within the section, right?

A. Yes.

Q. But Marathon's concern is that reserves are going to be left in the ground if those additional wells aren't ultimately drilled?

A. Or aren't drilled at an appropriate timing, appropriate sequence.

Q. So that's why Marathon has decided to pursue

this issue.

Are you knowledgeable of Marathon's efforts to support other operators like Novo who have pursued development plans which it found would optimize recovery from the formation?

A. Yes. We -- we received proposals for Novo, and we are electing to participate in the wells. We are not fighting that. We are not trying to --

EXAMINER JONES: When you started now, you were redirecting, but are you --

MR. FELDEWERT: They're now going into closing statement.

THE WITNESS: Sorry.

MS. BRADFUTE: Yeah. No. And I will wrap this up.

Q. (BY MS. BRADFUTE) So, Mr. Alekseenko, in your opinion, does Marathon's plan best prevent waste -- the creation of waste within the proposed spacing unit?

A. Yes.

Q. Okay. Thank you.

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. I have to ask one question. I need to get your take on this issue and into evidence. You testified extensively about the consequences of drilling below

optimum density.

A. Yes.

Q. What are the -- other than that you spend too much money, what would be the adverse consequences of drilling too many wells in an area? Would it actually -- is it just a waste of money, or does it result in less production?

A. It does not result in less production. The only thing that suffers, with the exception of loss of money, is surface land use. You can -- you can be very inefficient drilling too many wells. It becomes a mining operation.

Q. Yes.

A. But at the end of the day, mineral right owners, the State, et cetera, their royalties are going up -- are going up as downspacing takes place.

Q. Thank you. I have no further questions.

EXAMINER JONES: Okay. Is that it for Marathon case?

MS. BRADFUTE: That concludes Marathon case, and then we ask that all of the cases heard today be continued to the July 26th docket.

EXAMINER JONES: Okay. And do you want to talk about written closing statements, or do you have a schedule you want to -- Mr. Bruce loves to do written

closing statements.

MR. BRUCE: There's nothing like staying here past 5:00. Let's put it that way.

MR. FELDEWERT: Mr. Examiner, you're not going to allow me to present rebuttal witnesses?

(Laughter.)

EXAMINER JONES: Hey, it's continued until the 26th.

MR. FELDEWERT: You know I'm just kidding.

EXAMINER BROOKS: Well, I think that might be an adequate solution, that we continue it to 2026. Not until the 7/26, until 2026.

(Laughter.)

THE WITNESS: 2026 (laughter).

EXAMINER JONES: But seriously, we can continue these until the 26th, but maybe a brief written closing or summaries of your case?

MS. BRADFUTE: In one week?

EXAMINER JONES: No, no, no. No. It's a schedule that you would just choose.

EXAMINER BROOKS: Yeah. I think we could have those after the 7/26 hearing. And if you don't -- if you get this evidentiary issue settled between now and then, which I hope you will -- that's what I always said when I was a judge. The way to settle discovery

issues is to bang the lawyers' heads together. But if you get them settled by -- between here and the 26th, we won't need to have any further hearing unless you want to present something as a result of that. If you don't, well, then we'll have to have a hearing on -- on whether the information requested is actually privileged, which those hearings can be lengthy, I know. Because contrary -- I understand the perspective of company employees. They don't have the right to produce evidence --

MS. BRADFUTE: That's right.

EXAMINER BROOKS: -- that they don't have company permission to produce, although some federal judges -- I don't think elected state judges do, but a federal judge might say, Well, you will go to jail for contempt of court, and we will provide you with a phone so you can contact your company and get permission.

(Laughter.)

THE WITNESS: I'm glad we're not doing that.

EXAMINER BROOKS: We don't have that authority.

THE WITNESS: Okay. That's the only reason why.

(Laughter.)

EXAMINER JONES: I still suspect we already admitted Exhibit DD earlier.

MS. BRADFUTE: We did. I think we did, to tell you the truth.

EXAMINER JONES: And the transcript would show that.

EXAMINER BROOKS: Okay. Well, I would suggest that you continue this until July the 26th so that the transcript will reflect that, and we'll --

EXAMINER JONES: It won't be here by then. It'll be here probably a week or so after that, right, the transcript?

EXAMINER BROOKS: I would assume so. We don't need it by then.

EXAMINER JONES: No.

Okay. We're continuing Case 16300, Cases 16024, 16161, 16162, 16076 and 16077 to July 26th, and this hearing is concluded.

MS. BRADFUTE: Thank you.

EXAMINER JONES: Thank you-all.

EXAMINER BROOKS: Thank you.

EXAMINER JONES: Thank you for being here so late and sharing all your good knowledge with us.

(The proceedings conclude, 7:15 p.m.)

STATE OF NEW MEXICO

COUNTY OF BERNALILLO

CERTIFICATE OF COURT REPORTER

I, MARY C. HANKINS, Certified Court Reporter, New Mexico Certified Court Reporter No. 20, and Registered Professional Reporter, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that were reduced to printed form by me to the best of my ability.

I FURTHER CERTIFY that the Reporter's Record of the proceedings truly and accurately reflects the exhibits, if any, offered by the respective parties.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

DATED THIS 5th day of August 2018.

MARY C. HANKINS, CCR, RPR
Certified Court Reporter
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2018
Paul Baca Professional Court Reporters