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

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

APPLICATION OF BLACK MOUNTAIN OPERATING, LLC FOR A NONSTANDARD OIL SPACING AND PRORATION UNIT, COMPULSORY POOLING AND AN UNORTHODOX WELL LOCATION, LEA COUNTY, NEW MEXICO. CASE NO. 15655

Consolidated with

APPLICATION OF BLACK MOUNTAIN OPERATING, LLC FOR A NONSTANDARD OIL SPACING AND PRORATION UNIT, COMPULSORY POOLING AND AN UNORTHODOX WELL LOCATION, LEA COUNTY, NEW MEXICO. CASE NO. 15656

Consolidated with

APPLICATION OF GMT EXPLORATION COMPANY, LLC FOR A NONSTANDARD OIL SPACING AND PRORATION UNIT AND COMPULSORY POOLING, LEA COUNTY, NEW MEXICO. CASE NO. 15659

Consolidated with

APPLICATION OF GMT EXPLORATION COMPANY, LCC FOR A NONSTANDARD OIL SPACING AND PRORATION UNIT AND COMPULSORY POOLING, LEA COUNTY, NEW MEXICO. CASE NO. 15660

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

July 20, 2017

Santa Fe, New Mexico

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

This matter came on for hearing before the New Mexico Oil Conservation Division, Michael McMillan, Chief Examiner, William V. Jones, Technical Examiner, and David K. Brooks, Legal Examiner, on Thursday, July 20, 2017, 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.

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EXHIBITS OFFERED AND ADMITTED

(2:08 p.m.)

EXAMINER JONES: Cases Number 15655, Case Number 15656 call for appearances in those two cases, and then I'll call the other two.

MR. HALL: Mr. Examiner, Scott Hall, Montgomery & Andrews Law Firm, Santa Fe, appearing on behalf of Marathon Oil Permian, LLC.

EXAMINER JONES: Okay. And for the record, those were application of Black Mountain Operating, LLC for a nonstandard oil spacing and proration unit, compulsory pooling and an unorthodox well location, Lea County, New Mexico.

Other appearances?

MR. BRUCE: Mr. Examiner, Jim Bruce representing GMT Exploration Company, LLC, Devon Energy Production Company and BTA Oil Producers, LLC.

EXAMINER JONES: We'll also call Case Numbers 15659 and 15660, application of GMT Exploration Company, LLC for a nonstandard oil spacing and proration unit and compulsory pooling, Lea County, New Mexico.

Call for appearances in both of those cases.

MR. BRUCE: Mr. Examiner, Jim Bruce representing the same entities.

MR. HALL: Same for me.

EXAMINER JONES: Thank you.

And I didn't bring those case files down. I can run and get them if we need them.

MR. BRUCE: Whatever you want.

EXAMINER JONES: We may not need them.

MR. BRUCE: Yeah. Well, if we need them, you can certainly call them. That'll be fine, too.

EXAMINER JONES: Mike, you want the cases?

EXAMINER McMILLAN: We'll need to take a break and get them.

EXAMINER JONES: We'll start, and if we need to refer to an exhibit, we'll have to run and get them, which we probably will need to refer to them almost immediately here.

EXAMINER BROOKS: Well, I suspect somebody will want a break before this hearing is over.

EXAMINER JONES: Okay. Okay. Let's go ahead, until we reach our first exhibit.

Who wants to go first?

MR. BRUCE: Well, I suppose you should put on the evidence of the force pooling right off the bat.

MR. HALL: That's been put on.

MR. BRUCE: Well, hasn't the -- has it with respect to BTA?

MR. HALL: Oh, with respect to BTA. I

mean, they're included as a party. They appeared at the last hearing.

EXAMINER JONES: Was anybody representing BTA here?

MR. BRUCE: (Indicating.)

EXAMINER JONES: Okay. Yeah.

MR. BRUCE: I don't mind going first.

MR. HALL: That's fine.

MR. BRUCE: Okay. You expected me to be organized.

EXAMINER JONES: Speaking of organized, if we could, for all of our sakes, recapitulate the cases real quickly?

MR. BRUCE: Okay. And Scott can jump in.

EXAMINER JONES: Okay.

MR. BRUCE: The lands involved are the west half of Section 2 -- I forget the township and range -- and the southwest quarter of Section 35. Black Mountain is proposing Bone Spring -- is proposing two one-and-a-half-mile laterals covering that, collectively, 480 areas. GMT is proposing two one-mile laterals in the west half of Section 2 only. That's in a nutshell.

EXAMINER JONES: Mr. Hall?

MR. HALL: And proposing countervailing

pooling orders to be issued by the Division.

As you'll recall, I didn't do the initial hearing, but I have read the transcript. I believe I'm up on everything. There was a question that came up about a potential surface-use issue. We're here to address that today. We have -- I brought two witnesses, a land witness and a geologist. I understand Mr. Bruce brought a geologist today.

MR. BRUCE: I brought a geologist from GMT and a landman from BTA.

MR. HALL: So we have a geologist to provide rebuttal testimony.

EXAMINER JONES: Okay. I think -- you want to talk about the surface-location issues first?

MR. BRUCE: I think that's --

MR. HALL: Why don't you introduce the JOA? We can start with that.

MR. BRUCE: Okay. Sure.

EXAMINER JONES: Can all the witnesses please stand just so we don't forget to swear anybody?

(Mr. Dilli, Mr. Christensen, Mr. Gyllenband and Mr. Wilty sworn.)

EXAMINER JONES: Does everyone know -- Michael has some -- Michael McMillan had some concerns at the end of the last hearing, and maybe Mike could

restate those.

EXAMINER McMILLAN: My question for BTA is: What does the JOA say? Who is the -- does the JOA give exclusive operation rights to BTA, or can anybody within the JOA nominate as operator?

MR. BRUCE: I think my witness can answer that.

EXAMINER McMILLAN: That was the question I had.

EXAMINER JONES: But you also had a question about the land occupancy.

EXAMINER McMILLAN: Yeah, I did. And all I was trying to doing is I didn't want -- I wanted that issue clearly resolved on one map.

EXAMINER JONES: Because we had Murchison tying up --

EXAMINER McMILLAN: We had the 3 Bear processing plant or something?

MR. HALL: Proposed.

EXAMINER McMILLAN: Okay. Proposed.

EXAMINER JONES: So Mr. Seth McMillan transferred all knowledge over to Mr. Scott Hall in this case?

MR. HALL: He tried.

EXAMINER JONES: Okay.

MR. BRUCE: And my claim will discuss in more detail, but there is an old JOA -- and it's 40 years old -- that covers -- at this point all we're concerned with is the west half of Section 35 and the southwest quarter of Section -- or the northwest quarter of Section 2. It used to cover the southwest quarter of Section 2, but the lease on that acreage died. And so BTA took a new lease some time ago -- or a year or two ago on that. So GMT is not subject to the JOA. BTA and Black Mountain are subject to the JOA.

It will be BTA's contention that they own a contractual interest or a working interest under the entire west half of Section 35, and as such, they obtained APDs for two wells in the west half of Section 35, and that's what they would like to drill.

And I think both Black Mountain, now Marathon, and BTA do operate wells in the west half of Section 35. But certainly either company can propose wells under the JOA.

EXAMINER JONES: Should that be restated with the witness on the stand?

MR. BRUCE: I will go over that.

EXAMINER JONES: Okay.

MR. BRUCE: But Scott can add whatever comments he has.

MR. HALL: Well, I think that's an accurate assessment of the issue.

I mean, I think from the testimony you're about to hear, there are questions about the applicability of the JOA now, whether it may have been subdivided, whether there was actual succession of operations. Those are the questions we're going to address with the witness.

We're also going to ascertain from the BTA witness whether his position about the authority of the JOA -- the old 1977 JOA is in conflict with GMT's proposal for a new JOA. So both Marathon and GMT propose -- well JOA.

EXAMINER JONES: Okay. That sounds good.

MR. BRUCE: And I think what I'll do first is put on GMT's geologist, and then I'll put on BTA's landman.

EXAMINER JONES: Okay.

MR. BRUCE: And the other thing, Mr. McMillan, there is -- there is an issue, as Mr. Hall said, about a proposed -- I forget the exact facility, but it's kind of a small plant in the south half-southwest quarter of Section 2 that could conflict with some surface locations that Black Mountain has.

MR. HALL: That's right. We'll address

that.

MR. BRUCE: And that was discussed.

MIKE DILLI,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Could you please state your name and city of residence?

A. Mike Dilli, Littleton, Colorado.

Q. Who do you work for and in what capacity?

A. GMT, vice president of exploration.

Q. By profession, are you a geologist?

A. Yes.

Q. Have you previously testified before the Division?

A. Yes.

Q. And were your credentials as an expert petroleum geologist accepted as a matter of record?

A. Yes.

Q. And are you familiar with the geology involved in these applications?

A. I am.

MR. BRUCE: Mr. Examiner, I tender Mr. Dilli as an expert petroleum geologist.

MR. HALL: And we do not object.

EXAMINER McMILLAN: So qualified.

Q. (BY MR. BRUCE) Before we begin, Mr. Dilli -- I've never been in a case like this -- but Black Mountain's interests were acquired by Marathon, as you well know.

A. Uh-huh.

Q. Have GMT's interests been acquired?

A. Yes. They were acquired by Centennial.

Q. And you were the geologist who developed this prospect?

A. Yes.

Q. Do you have an agreement to cooperate with Centennial for a period of time?

A. Yeah. We have a technical services agreement.

Q. Okay. So that's why you are appearing rather than a Centennial witness?

A. Yes.

Q. I've handed you two exhibits. Mr. Dilli, just briefly, is Exhibit A the exhibit you prepared for this hearing?

A. It is.

Q. Okay. Now, Exhibit B, is that just a duplicate of what you presented at the May 11th hearing?

A. It is.

Q. You don't intend to go through the May 11th --

A. No.

Q. -- exhibit in detail, do you?

A. No.

Q. But start with Exhibit B and just testify about your main points on that exhibit. And you might just want to refer to a limited number of pages.

A. Yeah. It'll be real quick.

I think the main point that we're trying to make geologically is and the engineering testimony was in southeast New Mexico, Lea County, the geology and all the Bone Spring formations is not a ubiquitous formation. It is not uniform in facies or reservoir quality.

And we try to -- even when I worked southeast New Mexico in the '90s, we played the Bone Spring, and we wanted to find economic oil. And we had cutoffs back then. It's changed because of the horizontal. And now I'm working in the horizontal aspect, and our cutoff has changed. And I'm not saying we have industry standards. I'm just saying our experience out here in, like, the 40 horizontal wells we've been in and some we've declined to participate in have shown that these cutoffs really help us in determining economic, paying, quality wells.

Most wells in New Mexico, Lea County, are still being drilled with one-mile laterals. Certainly in good reservoir rock, longer laterals would be fine.

So I think that's the jux [sic] of the testimony.

If I could refer you to, actually, go back, on Exhibit B, the last -- the last page is blank, but the last two pages with something on it, we have a cross section. If you'll look at the -- if you look at the map before it, it goes from Section 11 through Section 2, which is the section in question, up to Section 35. And without rehashing the entire testimony before, what we are saying is you can see, from the logs on that cross section, in the 3rd Bone Spring, the Wolfcamp X-Y and the Wolfcamp A, the reservoir degrades as you move north. So we would be -- we like where we have our acreage in Section 2, and we would be drilling -- paying for a well into a reservoir that we don't think would be economic.

You can see that clearly -- and we'll look at Exhibit A here. The Great Western well, State well, A on the cross section and the end column -- which is density neutron, the RT is resistivity, and the GR is gamma ray -- you can see a highlighted 8 percent density porosity, which is highlighted in red down there in the

Lower 3rd Bone Spring sands. And as you move north, you can see that that thins and that you don't have any of that red, which is what I map as 8 percent density cutoff, define good economic reservoir rock. Certainly you're going to get oil out of either of these, but we want to -- we want to find economic oil.

So that's the jux of the testimony that I gave on May 11th.

EXAMINER JONES: Thank you for that.

THE WITNESS: So what I did for today's hearing --

Q. (BY MR. BRUCE) Let me -- for a minute --

A. Okay.

Q. You were here for the testimony of Black Mountain's engineering witness at the last hearing?

A. I was.

MR. BRUCE: And it escapes me now, Scott. Mr. McCormick?

MR. HALL: McCracken.

MR. BRUCE: Mr. McCracken.

Q. (BY MR. BRUCE) Mr. McCracken put on an engineering study that you have reviewed, correct?

A. Yes.

Q. And without putting words into Mr. McCracken's mouth, his argument, if I may, was essentially that the

longer the lateral, it was basically a one-to-one correspondence. In other words, a one-and-a-half-mile lateral would produce 50 percent more oil than a one-mile lateral?

A. Yes.

Q. And he presented a study with a number of wells in it, correct?

A. Yes.

Q. And have you looked at the location of all those wells?

A. I have.

Q. And then GMT's engineer said that if you look at all of the Bone Spring wells in Lea County, correct --

A. The horizontal ones, yes.

Q. -- the horizontal ones in Lea County --

A. In the Bone Spring, yes.

Q. -- in the Bone Spring and looked at all of them and took the production, there was not a one-to-one --

A. Correct.

Q. -- correspondence?

A. Correct. That it was about .3, if I remember correctly. It's in the last testimony.

Q. So in other words -- and to get to the basis of your opinion before you start Exhibit A -- is that just

due to the quality of the reservoir, in your opinion?

A. Yeah. Certainly better quality reservoir -- I mean, I don't think this is an outlandish statement. Better quality reservoir, you're going to get better oil production. And so we're going to look at some of the examples of that.

Q. Okay. And then move on to Exhibit A and explain to the Examiners what you looked at.

A. So Exhibit A -- so instead of looking at -- you know, going around all the Basin and try to find examples, I just went to wells that GMT has drilled or been a party to or know -- you know, are close to our acreage.

And so on page 2 -- the page is labeled in the lower right corner there. I just have an example of a GMT well drilled by us, and an example in 21-34, there's two -- the two red lines, the big bright ones, are the horizontal wells I'm referring to. Any of the smaller red lines on there are the horizontal wells that have been drilled and completed. And if it has the brown-colored circle on the top of -- actually, it's the bottom hole, that's the formation -- it's productive in the 2nd Bone Spring where these wells are drilled. Okay?

So the first well I want to look at is the

Devon Chiles Number 28 that was drilled, and then the second well will be the GMT Vitalizer to the south of it. If you remember my first testimony, I said if you have 20 feet of density porosity 8 percent, we really like that, and that's what we kind of use as our rough cutoff. I mean, it's not going to be a magic cutoff.

Q. But, again, lower -- lower percentage will produce, but --

A. Correct.

Q. -- in your opinion, it won't be economic?

A. Right.

As you see, both these wells were drilled in good thick 2nd Bone Spring reservoir rock.

My point is -- I'm going to show you on the cross section the Devon Chiles well, and we know this because we know who steered the well for us -- they targeted a poor reservoir zone between two good reservoirs zones. Okay? I think their thought process was we'll be able to frac into both good reservoir zones. And we targeted a good reservoir zone. Okay? And our well -- and we were pretty nervous because their base well was drilled before ours and we knew it was not a great well, but we [sic] were drilling the same formation that we drilled our well.

And you can see on the little callout

there, the EUR on their well is 135,000 MBOE, by our engineer, and the EUR on the GMT well is 558,000 MBOE. We don't know think 135,000 is economic. Obviously, ours is economic.

We have a three-well cross section, if you look on page 3. None of the wells drilled actually had a log on it, so we had to go to wells beside it. But if you look at that cross section hung on the top of the 2nd Bone Spring, the target interval is the lower part of the 2nd Bone Spring, the lower sands there. You can see on the left -- you can see 8 percent porosity. That's that red, again, I was talking about. It's labeled there. It looks pretty good throughout the -- throughout the area.

But the Devon well, if you look on the Pogo State well, on A, they targeted that middle zone where the poorer reservoir is. And they stayed in it because we have the log they drilled, and we know who drilled it for them. And they got a poorer well. They didn't get a bad well. They got a poorer well. So we targeted -- got to the best reservoir, callout letter there on the right, with the nice, good, thick porosity. That's what we targeted. That's what we drilled. That's one of our better wells that we drilled.

And here's -- if you go to page 4 now, 3rd

Bone Spring, which I think we're talking about here, is another area that GMT's drilled and have been active in. We're going to show three wells drilled in the Lower 3rd Bone Spring Sand, which is where the majority of the wells in the Basin have been targeting. Again, this is my map. The well on -- the B, the far right, the three bright red ones are the ones we're talking about. That's an EOG Bridge State well. It only has 3 percent of porosity over 8 percent. It's about a 210,000-barrel well. GMT drilled the well there in Section 30, 30H. It has zero feet of over 8 percent. This is one of the wells that helped us determined our cutoffs. We had like 7 percent that whole big, thick section, but t just got really tight. And that well is about 120,000-barrel well.

Then you see the next GMT well over there where we have over 100 feet of net pay, and it's -- it's -- it's an early on well. We frac it much stronger now, but it's going to be about a 350- to 380,000-barrel well. So, again, what we're showing is reservoir degradation. You're going to get better wells in better reservoir rock.

If you turn to the cross section, it goes from B to B prime. It goes right beside wells that were logged. You can see on the far left well the horizontal

target highlighted in the dark yellow sands, the red porosity of 8 percent. You can see the target zone where we drilled our #30 well. It really has no porosity over 8 percent. You can see there is no highlighted red there, and we got a much poorer well. And then you see the EOG well, which is even further to the east, even tighter and thinner, making a pretty poor well there as well.

So the point of this is in examples where we have been drilling wells, where we have actually participated in wells and paid for wells, that's where we come up with this economic kind of cutoff. Certainly you're going to get oil out of -- this proves here you're going to get oil out of tight rock, but we want to get economic oil.

If you go to the next page, it's really -- page 6 is just the Black Mountain presentation for the 2nd Bone Spring lateral. So all I did here was just show you -- out that in there just to show you where that was.

If you go to the next page, page 7, it's my regional map of that same area where they've done it. I didn't change my maps. This is - I've got the whole Lea County map. I just plot down what it was.

Q. I want to take a step back.

A. Yes, sir.

Q. Did you state in your first testimony that you basically -- you've been working this area for a long time?

A. Yeah. I've worked probably 15 years total, yeah.

Q. And you've mapped out basically all the Bone Spring?

A. In Lea County, yeah.

Q. So you're able to pull this up and compare the wells that Mr. McCracken used with your geology?

A. Yes. And -- well, on a sidestep, when you have the whole county map like that, when a lease sale comes up, it's really good to see what leases you like and what leases you don't like, based on your mapping. So that's why we have it, or any deals that might come your way.

The only reason I have there is just to show you where they are. And so I have the same wells highlighted. The standard length wells that they've pointed out are the three in the shorter red circles, and the longer ones are the -- where they point out the longer laterals, which are right. But as you can see, all these wells are in well over 20 feet. They're in pretty good reservoir rock.

The cross section, A to B, on the next page or page 8, shows, again, lower -- I'm sorry -- 2nd Bone Spring lower interval. It shows the 8 percent porosity highlighted in red. And you can see across that area, you have some pretty good reservoir rock. Again, I'm not saying that you don't -- that one-and-a-half-mile laterals are not good in any circumstance, but in circumstances where you have good uniform reservoir rock, I think they are good.

The next page, 9, again, it's just -- all it is is the Black Mountain presentation for the 3rd Bone Spring. This one will really illustrate my point, I think.

You can see on page 10, it's the same area, with my same regional map. And I have the highlighted longer-length laterals, and I have the highlighted shorter laterals that Black Mountain used in their presentation. But as you see from this map, you're in well over 100 feet of really good reservoir rock. And a longer lateral in a really good uniform reservoir rock is certainly going to drain a lot better than poor reservoir rock.

And I have a two-well cross section on page 11, A to B, 3rd Bone Spring. You see the bright red 8 percent density porosity showing you that that is a

really good reservoir rock.

So what I'm saying is if you go back to the testimony in A and look at our cross section that goes into our acreage, we don't have any -- in Section 2 of the case we're talking about now, we don't have -- in those formulations, in the 3rd Bone Spring X-Y, Wolfcamp A, I think it's all too tight where we would want to drill a big rig and an economic well. We like our lease we bought in 2; obviously, we bought it. That's why we're proposing the one-mile laterals. We think that's where the best reservoir is for GMT, and now Centennial.

Q. And what you're saying is with the wells that Mr. McCracken used, he was absolutely correct?

A. He was absolutely correct. If you're in an area with really good reservoir rock, I think certainly longer laterals are going to be good for you.

Q. But if you're drilling a well and you go from good reservoir to bad reservoir --

A. It's not going to be --

Q. -- his opinions do not apply?

A. I don't -- I don't think so.

And obviously like we've touched -- you know, Mr. McCracken brought up oil-in-place numbers last time, and we are arguing that there is not oil in the rock. I mean, obviously, these tight rocks produce.

These tight wells we drilled produced oil, but they weren't economic. And so oil in place is really -- you're kind of mixing apples and oranges here.

Oil in place -- we use a 4 percent cutoff when we're doing oil in place. But when we're using -- when we're trying to find economic, good reservoir rock, we use our 8 percent cutoff. For us, that's what we use.

Q. And in your opinion, if GMT, and now Centennial, is forced into a one-half-mile lateral, it will -- its correlative rights will be adversely affected?

A. I think -- yes. I think we would be paying for a well -- you're paying more money for a well that you won't get as good a well out of if you just drill it one mile.

Q. As of this point, you think if it's a mile lateral, Centennial will now have 50 percent of a pretty darn good well?

A. I do.

Q. As opposed to a third of a well that won't be as good?

A. In my opinion, won't be an economic well.

Q. Do you have anything else, Mr. Dilli?

A. I don't believe so.

Q. Were Exhibits A and B prepared by you or under your supervision?

A. Yes, they were.

Q. And in your opinion, is the granting of GMT's, now Centennial's, cases and the denial of Black Mountain's, now Marathon's, cases in the interest of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: Mr. Examiner, I move the admission of Exhibits A and B, GMT exhibits.

MR. HALL: No objection.

EXAMINER McMILLAN: Exhibits A and B may now be accepted as part of the record.

EXAMINER JONES: For Cases 15659 and 15660; is that correct?

MR. BRUCE: Well, yeah, or all of them.

MR. HALL: They're consolidated.

EXAMINER JONES: They're all consolidated.

(GMT Exploration Company Exhibit Letters A and B are offered and admitted into evidence.)

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. I used to live in Centennial, Colorado.

But what's the name of the organization

there?

A. Centennial Resource Development is what our stock symbol is, but we will be operating under Centennial Resource Production.

MR. BRUCE: This is -- Mr. Tanenhull [phonetic] is the chief landman for Centennial.

EXAMINER JONES: Okay. Thank you.

MR. BRUCE: Pass the witness to Mr. Hall.

EXAMINER JONES: Mr. Hall.

CROSS-EXAMINATION

BY MR. HALL:

Q. Mr. Dilli, if we could get you to look at your original exhibits now, Exhibit B, if you'll refer to that.

A. Yeah. They're not numbered. So sorry.

Q. You have an isopach of the Wolfcamp A?

A. I do.

Q. Like to find that as a cross section?

A. It is.

Q. It's hard for me to read, but what are the density porosity values on the logs?

A. Well, DN is density porosity. And if you see the bright red in the density-porosity track, density porosity is the solid black one. And so -- excuse me -- highlighted in bright red is 8 percent, and you really

only -- well, in the 3rd Bone Spring sands, you only see that in the Great Western shale.

Q. Right.

So my question is: What's the range of the values shown on the top of the logs?

A. Oh, the scale. I'm sorry.

Q. Scale. I'm sorry.

A. Okay. Yeah. That's the standard scale, zero to 30 -- or negative 10 to 30. I'm sorry.

Q. Okay. So negative 10 to 30 is what you used. And so the 8 percent falls roughly in the center on that scale on all of the --

A. Yeah. The middle line is 10. The middle blue line would be 10 percent.

Q. Okay. When you rely on 8 percent, is there any margin for error?

A. Absolutely.

Q. Okay. And what is that margin?

A. If we have a great big, thick porosity, well -- and maybe you've got some 8 below your target, 8 above your target and -- well, we use 20 feet. But if you have 0-8, I'm going to say we wouldn't drill. But if you've got, like I say -- all of this is like playing cards. If we have, say, 15 feet of good porosity in a really thick section and spread out over it and maybe

we've got some sands above it, we might go ahead and drill that well, yeah. Everything's kind of -- and then does it get better as you move to the north? As you're drilling to the north, does the porosity get better? And we say, Well, we're probably drilling into a better reservoir rock.

Q. Okay. Let me rephrase that question. I'm still focused on the scale. And you rely on your 8 percent there, and you believe your readings are 8 percent -- your interpretation is 8 percent?

A. Yes.

And I think -- I mean, I don't think we should back up here, but this is on a 278 matrix, because every well out here was logged on a 278 matrix. So I'm using it as a relative comparison term, preparing each log in the Basin to every log. Now, I have LASes here, and I could have adjusted it, but all my maps where I had only raster logs. So I've used -- we're comparing apples to apples when I'm using that.

Q. Have you ever run any sort of sensitivity analysis to see if a difference of, say, 1 percent in porosity makes a difference in what you say is economic or uneconomic?

A. No. What I -- you know, what really kind of opened our eyes on this is the well we drilled in

Section 30 on the presentation I just made. On the cross section, we had, you know, 60 or 70 feet of nice, thick 3rd Bone Spring sand, which is what we were targeting when we drilled the well, but it has nothing over 8 percent. We went ahead and said, Let's give it a shot. We've got -- it is not an economic well. So that's kind of -- that and all this -- looking over the empirical data and stuff -- I'm not sure if I'm answering your question (laughter).

Q. Well, I'm a lawyer, so you have to bear with me.

A. Okay.

Q. So what would the impact be of a net reservoir if the porosity cutoff is reduced by just 1 percent --

A. To 7.

Q. -- 7 percent?

A. Well, we didn't run those numbers, but like I just said, the well in Section 30 was about 7. And we got -- nothing was over 8. A lot of it was between 6 and 7. And we -- you know, we realized that when we drilled it. We said, Let's give it a shot anyway. So I haven't done the analysis to say -- because we use 20 feet of 8 percent porosity, is kind of what our rough cutoff is. I'm not saying it's an absolute, but that's what we use. If it has 20 feet here and we like it, we

buy the acreage. We'd probably drill the well. If our proposal well had less than that, well, we have other factors. Again, I can't say there is an absolute. We did not do an analysis of 50 feet of 8 versus 40 feet of 7, if that's what you're saying.

Q. Right. That is what I'm getting at.

A. No, we did not do that analysis.

Q. Okay. Can you tell me, just based on your experience?

A. Based on my experience, if you have less than 20 feet of 8 percent density porosity, you're going to make a well, but chances are it's not going to be economic. That's just our rough idea of what we look for.

Q. Because you're losing some amount of thickness?

A. You're losing thickness and you're losing some porosity. And obviously permeability goes --

Q. If your porosity is 7 percent, you're down to 10 feet; is that right?

A. If we did -- if we had 20 feet of 7 percent, we wouldn't -- we probably would not -- based on our experience, we probably wouldn't drill that well. We wouldn't drill the well.

Q. My question is: So do you go from 20 feet to 10 feet if you reduce porosity by --

A. Well, no. You have -- you know, my 20 feet is 8 percent porosity.

Q. Right.

A. So you if you have -- if you -- if you -- I'm sorry. So if you go from 20 feet to 10 feet of 8 percent porosity, that would vary. I'm going to say never, but if you're drilling towards a well that has 40 feet of 8 percent porosity, you probably would give it a shot if it's in the same interval, because you're drilling towards better reservoir rock.

Q. Well, you've referred to an economic well several times. What's the definition for that?

A. So when we run the economics at whatever price strip we're running that, which is usually a strip, is what we usually run our price deck at -- and so out here, roughly, we would need about 300,000 barrels -- 280-, 300,000 barrels, roughly.

Q. You're not saying a log that's showing you 7 percent porosities is uneconomic, are you?

A. In the target zone? In our experience, I wouldn't propose a well unless there are some other mitigating factors. If it was 7 percent and that's all it was, the whole area, I don't think I would propose a well based on the experience of the wells I've just talked about. I'm not saying there is not some out

there somewhere. I'm saying our experience shows that has worked pretty well for us.

Q. Were there any in your study area with 7 percent porosity, say, 10 feet of thickness and it was uneconomic?

A. Well, yeah. I think I showed a couple. I mean -- oh, you mean these really didn't have any porosity. No. I can't say that I -- I looked at that. I mean, I just looked at the wells that I knew of, off the top of my head, that we had drilled and had good or bad wells based on this cutoff. And this debate was pretty big within our company as well, as you might imagine (laughter).

Q. There was disagreement?

A. Oh, yeah. But I think over time, especially after we drilled -- I mean, I used the 30 well here in this example, but we drilled the well in 19, logged both the 2nd and 3rd and took a 2nd Bone Spring to the north and took the 3rd Bone Spring to the south. And I have that one here because it's the 3rd Bone Spring. The 2nd Bone Spring is just as tight, and it's a better well than the 3rd. And it had like maybe -- I think it might have even had 6 or 7 feet of 8 percent porosity, and it's a better well than the 3rd, but we didn't have it down as one of our economic wells.

Q. When you are identifying the 3rd Bone Spring lower sand in your cross section -- I'm referring to Exhibit B -- were those -- was that 3rd Bone Spring sand sand-colored?

A. Petra does it. So it's a computer program I used. So when I pick a gross sand, I can color it one color. And when I pick the net sand using 8 percent, I can make it a dark yellow color.

Q. So you input 8 percent, and it colors everything it sees 8 percent?

A. Yes.

Q. Can you input 7.5 percent?

A. Yes, I could. On a -- on a -- when you're in a computer log, you can, yes.

Q. As we look at that log and you've identified the 3rd Bone Spring lower sand there, what would it look like at 7 percent? How much thickness would you get?

A. You mean -- you're talking from Exhibit B still?

Q. Right. I'm looking at the Getty 35 State -- or, actually, that log.

A. Well, that's a really tough question for me to answer sitting here. There would certainly -- did you say 7 percent?

Q. Yes.

A. There would be some, because it looks like a lot of those just touched the 8 percent, so there would be some. If I had to take a stab, looking at the scale right now, I'd say 10 feet maybe.

Q. All right.

A. It's a hard question to ask without the --

Q. And make sure I'm reading this right. Where it reads "top Wolfcamp" on the log, that's actually located within the Bone Spring?

A. Oh, the sign is -- I mean the label. I should have put that below that. It's that dashed line.

Q. Right. So there is no confusion.

A. I'm sorry about that.

Q. You have a bracket around the 3rd Bone Spring?

A. Right. Right.

EXAMINER BROOKS: I'm going to suggest that -- I just numbered the pages of Exhibit B, beginning with the first page after the title page, 1 through 7, and I skipped the two blank pages and numbered the last one 8. I'm going to suggest everybody stop and do that.

EXAMINER BROOKS: Remember I skipped the title page and I skipped the two blank pages, so I've got a total of eight numbers.

Q. (BY MR. HALL) Let me ask you this, if we reduce

the porosity cutoff to 7 percent, to 40 feet of net pay, what would that do to your isopach?

A. Well, it's all -- if I reduce my porosity cutoff to 7 percent, I think the relative -- the thicknesses would stay the same -- I mean the comparison thicknesses. So instead of being 100 feet thick, it might be 140 feet thick. Instead of being zero, it might be 15. So, I mean, it would -- it would make it thicker. And relative to each other, it'll all thicken up.

Q. And so your isopach, which is page 2, it would extend the contours for -- sorry. Let's go to the 3rd Bone Spring, page 4. If you went to 7 percent and 40 feet, what does that do to your contour, say, for the 50-foot interval there -- the 50-foot contour line? Would they extend farther north?

A. Oh, absolutely. 40 is the one I've got -- I think you're looking at, but 50 is the well.

Q. Oh, I'm sorry.

A. But the 40-foot contour would certainly extend -- well, it depends on whether that well is 25 feet. It could, yes. Everything will be thicker. Let's just put it that way. The 25 might be 35 or something. I don't know. I'd have to --

Q. It would likely extend up --

A. Yes.

Q. -- into Section 2?

A. Yes. It would likely extend --

Q. 35.

A. Yes. Yeah. If you lower the porosity cutoff, you're going to have more -- more of those feet of net sand.

Q. All right. You said there was disagreement in-house about --

A. Early on, there was, yes.

Q. Disagreement within the geologists?

A. Yeah.

Q. Okay.

A. Until we drilled about three or four of these wells, and then they came around to my -- we had cutoffs back in the vertical days, too, right? So everybody would kind of roughly figure that out. Yeah. When we first started the play, was 20 the right number? Was 8 percent the right number? What if we map at 6 percent? What if we map it -- we've had all those. But that was early on in the play, yeah, or early on for us. Yeah.

Q. So let's look at page 3 of Exhibit A and your log for the Devon Pogo well.

A. Uh-huh.

Q. And you've identified their landing target?

A. Uh-huh.

Q. What would have happened if they had gotten up into that thicker --

A. Oh, I think they would have a well similar to ours.

Q. Do you know if they were targeting that, in fact?

A. Well, when you plot it out, it looks like they are. And when you look -- you know, everybody has to run a gamma ray on a horizontal well. If you look at the -- so it kind of helps us steer it, if we're in sand or not. If you look at the gamma ray, we're not in sand most of the way. And, you know, I don't have sworn testimony from this guy, but the guy who helped eventually drill their well is a service company. Also, we've had them on our well. And he told us that's what they were targeting, and he helped them steer it. Their thought process was to get the sand below and sand above. But I think if they had been up in that big thick sand, like where we drilled, they would have had a pretty good well.

Q. And did you ever examine the frac job they pumped into that well?

A. Yeah. Well, if you look on page 2. I just put "pounds per foot." That's really all you can glean from

the public data. They had 1,400 pounds per foot. We had more.

Q. So the frac job made a difference?

A. I think bigger frac jobs make a bigger difference in different reservoir rock. Yeah.

Q. So the Devon well underperformed because it was landed where it was. It was a landing issue, right?

A. Uh-huh.

Q. And it had a lighter frac job pumped on it?

A. Well, it had a lighter relative to ours, but I could point it -- like the well we drilled on -- where was that one? The well we drilled, the GMT 25 State Com, on page 4, which is 380,000, we only had 700 pounds per foot on that well. So, I mean, it was half of their well frac job. This is our, like, gen one frac job, generation one, where we have, like, three now or something.

Q. All right. So the steering issue and the completion issue, those were heavily weighted --

A. I think the steering -- steering more than the completion on that, because if they had put that frac job in good sand, they would have had a much better well, just like our well in the GMT 25 State Com #1, on page 4. We only had 700 pounds per foot on that well, and they had, what, 1,400?

Q. Right.

A. Yeah. They had 1,400. So they had twice the frac job we did, and we made a good well and good reservoir.

Q. You had a steering issue, you had a frac-job issue, the completion issue. It was more about those issues than it was 8 percent cutoff --

A. Yes. Yes. Yeah. I think -- oh, I'm sorry. I see your -- yeah. I only put that in there as an example that they didn't drill in a good reservoir rock. So you need to dig good reservoir rock, I think, to make a good well. I'm sorry.

Q. So a larger completion will overcome poor rock quality? Is that generally true?

A. I also wouldn't necessarily say that. If you -- in all instances. If you look on page 4, again, the EOG Bridge State well, which was 1,800 pounds per foot, that's a pretty good size frac job. And its EUR is -- that's in really poor rook. Its EUR, according to us, is about 207 in DOE. And not in all instances can you overcome poor reservoir rock with a monster frac job.

Q. Well, so couldn't 700 -- I'm sorry. Couldn't a 7 percent cutoff reservoir yield greater than 200 MBOE?

A. I guess I'm not -- probably -- if you had in 7

percent over 50 feet and you had a bigger frac job on our well, would it be 200,000? Because ours -- the small frac job is 115,000. You double the frac job or went to 2,000 on our tight rock, you might -- you might double that, double our well, the #30 well in the middle of that cross section where we have right at 7 percent.

Q. All right.

A. So you'd be at maybe 230,000 on our well.

Q. So your interpretation of poor porosity to the north, was that your deciding factor in not agreeing to participate in a well up into Section 35?

A. Yes. Had it just been in one zone, you might have -- but it's in three of our major target zones, so yes.

Q. So we're just talking about the one zone, the 3rd Bone Spring.

A. Yeah.

Q. And that was the deciding factor?

A. Yes.

Q. All right. So if we change that porosity cutoff just by 1 percent, 7 percent, it would have been within an acceptable range for GMT?

A. Well, except my 20-foot cutoff might have gone to 40 feet -- 7. So that's a tough question to answer. But based on the two wells I showed you with 7 percent

but no 8 percent --

Q. It reflects 8 percent as well, does it not, in your log?

A. Okay. Which -- on page 5? Page 5?

Q. Page 7. This is Exhibit B.

A. Oh, yes.

Q. So where you mapped the 3rd Bone Spring there, you've got 22 feet of greater than 8 percent?

A. Yes. And I didn't do this on purpose. Unfortunately, I think most of it is under that P on Wolfcamp.

Q. That would contribute towards what you said was an economic well, right?

A. It would contribute, yes.

MR. HALL: That concludes our cross.

EXAMINER McMILLAN: Go ahead.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. So your two cases are the GMT/Centennial 15659 and 15660. Are you proposing in the 2nd Bone Spring or the 3rd Bone Spring? Do you remember?

A. I think we did both, but I think our original one was in the -- if I remember correctly, was in the 2nd. It would be in the first testimony, I believe.

Q. Yeah. I'm sure. I'm sorry. I should have

boned up on it a little more before I came in here.

I think I remember. You know, you're both proposing two wells, and at one point, one of you was concentrating on one of the sands, and the other was concentrating on the other. But you're still not -- you're not amenable to actually drilling all four wells. You wouldn't want to make a deal with each other and drill all four wells and overlap spacing units and that kind of stuff. In other words, drill --

A. Well, I couldn't answer that. You'd have to ask -- I would say -- if it was GMT, I'd say probably not, but I can't speak --

Q. Yeah. Okay.

A. But we were 2nd, because we've had a lot of success in the 2nd.

Q. In the 2nd.

A. And I know, when we follow back up, I'd say we would do either one, 2nd or 3rd. We liked them both. We like the X-Y as well in our section of the Wolfcamp. So --

Q. Okay. Communication between the two? Probably not? Is that correct?

A. Oh, no. I don't think so, no.

Q. Okay. Not worried about that.

A. Uh-uh.

Q. And you have -- your approach is actually -- you have certain control points, and you do all the log analysis and maybe have some cores that you -- do you have any cores?

A. Not in this area, no, we do not.

Q. Have you used cores in the 2nd Bone Spring to -- at anywhere to --

A. Yes. We were partners with a couple of companies that sent cores, and it helped us to, you know, calibrate our porosity cutoffs and such. But it was north of here.

Q. Does it basically show you that you've got -- once you get below 8 percent or down to a certain percent, you have zero permeability?

A. No. No. It just degrades.

Q. Okay. Nano perm or something?

A. Well, I mean, like I show here, when you have zero -- if you have a thick package of 0-8 percent, you're still going to get some oil. This is a highly saturated oil system out here, and you're going to get oil. The two wells I showed you had zero, and they both made over -- I think one was 100- and one was about 200,000. But that's not --

Q. But you mentioned 4 percent density.

A. Well, we use that -- okay. We use that when

we're doing, like, oil-in-place numbers. You know, how much oil per section, how much oil is in place over this much section.

Q. Right.

A. And that's what Mr. McCracken brought up last time, was if you use 8 percent cutoff for your oil in place, it's not enough oil. We're not saying that. We use -- when we do our oil-in-place numbers, how much can this section produce, well, there's, you know, however many hundred thousand barrels per section in that formation.

Q. Okay. Where are your control points in this area? We're talking about Section 2, Section 35 and Section 26 to the north of that.

A. Okay. You can pick any of the isopach maps -- and do they have -- mine have -- I hope yours have the numbers on them.

Q. They do.

A. That's my control points. Where I have the 25.7, 44, whatever the number is, that's my control points. Those -- those are all Morrow wells that --

Q. Okay.

A. -- that log shallow. And that's why I'm on the 270 matrix.

Q. Okay. So they had actually pipe set -- you

actually had open-hole logs through --

A. Absolutely.

Q. -- through this Bone Spring?

A. Yeah. When I was in Santa Fe, we'd always try to drill a Morrow zone because you had all this Bone Spring and Delaware behind pipe, so could -- you always looked at it going down. You always had good logs at least through the middle of the Delaware section. Yeah.

Q. Okay. Santa Fe, I haven't heard that name in a long time.

A. Yeah, right. Well, Devon bought them a few years ago.

Q. Okay. So, basically, have you, since the first hearing, looked at changing your surface locations any, or are you leaving them where they're at? Or is somebody else going to talk about that?

Mr. Bruce: I think -- it was in the first testimony. But no, GMT's surface locations are set.

EXAMINER JONES: Okay. Okay.

CROSS-EXAMINATION

BY EXAMINER McMILLAN:

Q. I guess I'm at Exhibit A. I'm looking at page 2. You have 15 more feet of pay in the Vitalizer versus the Chiles, and you have --

A. Net sand, yes. The point of --

Q. Reserves?

A. The point of this -- of that display was they drilled that well in nonreservoir rock. We drilled ours in reservoir rock. That to me is the biggest difference in our well versus their well.

Q. So Devon, nonreservoir rock and --

A. Well, they targeted that. If they had been 20 feet higher, they would have been in the same reservoir we were and made a heck of a well. But -- that was the point of that display, was you need to be in good reservoir rock.

EXAMINER JONES: Devon is represented here today, but they don't have a witness?

MR. BRUCE: No, sir. They voluntarily committed their interest to GMT.

EXAMINER JONES: To GMT.

Q. (BY EXAMINER McMILLAN) So where did Devon drill, on page 3?

A. If you look -- see on the far left --

Q. Horizontal target?

A. -- the Devon horizontal target? They drilled on that tighter limier section.

Q. Oh, okay. And so GMT --

A. On the far right, we drilled on that nice --

Q. The upper zone?

A. Right, the -- well, the yellow where the good sand is and the red where the good porosity is.

Their well that they drilled in would have been -- if they had been, like I said, well, 20, 30 feet higher, they would have been right in the middle of that same zone, and I think they would have had a heck of a well out there.

Q. Now, how much reserves are you given in the 3rd Bone Spring in a mile-and-a-half well?

A. Well, I think -- in Section 2?

Q. Yeah, in 2 and 35.

A. Well, from 2 into 35 --

Q. Yeah.

A. -- we were at about -- I think what would be easier to do is, in relation to a mile lateral, we're only getting -- we're only estimating like another 15 percent. If you're drilling -- if you're drilling 100- -- so like 500,000 barrels, if you drill an extra half a mile, you might get another 15 percent more, is what we were kind of -- 15 to 20 percent more, because that kind of goes with the same statistics. If you look at all horizontal-long laterals, they're only averaging about 30 -- and it was in our first testimony. They're only averaging about 30 percent more than the longer laterals in -- in all wells. If you take cases where

you've got really good reservoir rock, it's going to be different, but that's all wells in Lea County. Not all of them are in the best reservoir rock.

RECROSS EXAMINATION

BY EXAMINER JONES:

Q. Did you say Section 26 to the north was actually better than 35?

A. I didn't say anything like that (laughter).

Q. Okay. Okay. So you're saying it just gradually tails off as you go north?

A. Yeah. I mean, I could pull my maps back out and see what I thought of 26, but I don't have it on here.

RECROSS EXAMINATION

BY EXAMINER McMILLAN:

Q. And is your primary target the 2nd?

A. We bought the lease for all four targets. We proposed our first well on the 2nd because we've had really good success within three, four miles of here in the 2nd, and then we were going to go do the 3rd next. Yeah. And we liked -- on Section 2, we liked the Wolfcamp, and we kind of liked the X-Y. So we have four -- that's why we bought the lease for -- we bought all four zones in Section 2. It looked prospective.

RECROSS EXAMINATION

BY EXAMINER JONES:

Q. If you go to the 3rd next, does the 3rd still drop off in Section 35, also?

A. Compared to Section 2, it does. Yeah.

RECROSS EXAMINATION

BY EXAMINER McMILLAN:

Q. So the reason you picked the 2nd was production?

A. Well, yeah. Our very recent -- some of our better wells were within four or five miles in here, in the 2nd, in the same zone, with the same looking [sic]. So yeah. That's why we picked it first off, but we bought the lease for all the zones.

Q. Okay. So you have to have 8 percent porosity to make, quote, an "economic well"?

A. In our history out here, yes. And I think what we're saying is from Section 2 to Section 35, in four of the -- or three of the major formations, the reservoir degrades doing that direction. We've got the one control point in the west half of 30 -- in the west half of 35, we've got one control point.

Q. Okay. I'm satisfied.

EXAMINER BROOKS: No questions.

MR. BRUCE: Couple of follow-up.

REDIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Dilli, in responding to Mr. Hall's questions, your responses required a lot of speculation, didn't they?

A. Yes. Yes. I just, you know --

Q. That's what -- tell me what the thickness would be of 7 percent rock in a particular section?

A. How much better would it be if you frac at 7 percent versus -- all I can do is go with the wells that we've drilled and what we've found.

Q. Go by the 40 wells you've drilled?

A. Right.

Q. In which case you say you need at least 20 foot of 8 percent?

A. Right.

And there have been wells that we were offered a chance to participate in that did not have that, and we -- I mean, I'm not saying I'm the smartest guy in the shed, but we declined to participate. And I can point to them on the map. And they didn't have that, and they didn't make good wells. So, I mean, just over -- the experience over time, for GMT, that's what we like to see to be sure we have an economic well.

Q. And so would you recommend the management

drilling into 7 percent rock whether it's 20 feet or maybe 30 feet?

A. I would not. If we owned Section 2, I would not propose a well. We wouldn't have bought a lease until we bought [sic] it. I'm sorry -- 35. We bought the lease in 2 for the -- for the reasons I've stated.

Q. Thank you.

EXAMINER BROOKS: How about a break?

EXAMINER JONES: Are we done with this witness?

MR. HALL: I may have a couple of follow-up, but we can go ahead and break.

EXAMINER JONES: Do you want to take about a minute?

(Recess, 3:13 p.m. to 3:29 p.m.)

EXAMINER McMILLAN: Call the hearing back to order.

Please proceed.

RECROSS EXAMINATION

BY MR. HALL:

Q. Mr. Dilli, I have very brief follow-up on a question Mr. Bruce asked you about your hard decision point; you have to have 8 percent. So bearing that in mind, let's look at your Exhibit B, page 4, your 3rd Bone Spring isopach.

A. Page?

Q. I'm sorry. 4. Page 4.

A. But Exhibit B?

Q. That's right.

Okay. So looking at your contours here, these are all hand-drawn contours, we assume. Is that right?

A. Yes. I contour them on the screen.

Q. And your 20-foot contour, which runs southwest to northeast, runs through Section 2, and everything to the east of the 20-foot is 8 percent or greater; is that right?

A. Uh-huh.

Q. You need to answer yes for the record.

A. Yes. I'm sorry.

Q. And what percentage is attributable to 8 percent or less? Can you approximate that?

A. So are you asking like a gross to net kind of a number?

Q. Well, just looking at the south half of Section 2 only -- actually, just the southwest quarter of Section 2 --

A. Section 2. Okay.

Q. -- what percentage of the southwest quarter would you say is less than 8 percent based on your

20-foot contour line.

A. Of Section 2?

Q. Yes.

A. I would say all of the --

Q. I'm sorry. I have them upside down.

Section 35.

A. I guess are you asking percentage of the map or percentage gross to net? I'm sorry.

Q. Well, the percentage of -- just considering the southwest of Section 35 there.

A. Oh, half? I guess half.

Q. So what percentage is less than 8 percent?

A. 50 percent. If you're saying just that quarter-quarter -- or the quarter -- quarter section, I mean, of 35?

Q. Southwest quarter, correct.

A. Maybe 60. That's -- you're going from 100 feet to 20 feet in a mile and a half.

Q. So everything to the north and west of the 20-foot contour line is something less than 8 percent, right?

A. I think what you're asking is is there still porosity, but it's thinner. Yes. I think that's what you're getting to.

Q. And as you go to the northwest, the thickness

comes back; is that correct?

A. So to the north -- far northwest over in 34 or whatever that section above 34 would be.

Q. So your next contour line would be 30 feet? These are 10-foot intervals, I assume?

A. 20.

So it would be -- well, what that -- okay. I see what you're saying. Sorry. Now I understand. And I should have labeled them better. I just pulled these right out of my regional map.

Those two contours are both 20s.

Q. Okay.

A. See the well that says "32" here in Section 34? The contour to the east of that would be 20 foot. The contour, where you see that 22 foot, is a 20-foot contour as well. So you have a thin between those two, and then you thicken up going into 34. Is that what you're asking me?

Q. Let's make sure. Look at the contour in the northwest corner -- the far northwest corner of your map. That's 40 feet, right?

A. Correct. The next one to the east would be 20 foot. The next one to the east of that is 20 foot. So you have --

Q. Two 20s?

A. Yes. I'm sorry. I should have -- my mistake there. I should have labeled those.

Q. All right. But you're saying, based on GMT's criterion, you would not drill a well from the north half of Section 35 into the south half to do a one-mile lateral? It wouldn't qualify?

A. In GMT's opinion, no.

Q. And that means nothing in Section 35 would get drilled?

A. The 2nd looks pretty good to me.

Q. All right. And how about in the east half of Section 35 for the 3rd?

A. Well, we don't -- I mean -- I mean, we don't own any interest over there, but are you just asking my opinion?

Q. Right. Would that get drilled, or would it be stranded?

A. That would -- the east half of 35 would probably get drilled in GMT's shop. I'd have to look at that well that has 43 on it again, but based -- you know, on what I -- you're asking me for a quick snapshot answer, which I think you are, without making my cross section, I would say probably it would get drilled.

Q. But the two proration units on the east side would not -- couldn't justify two one-mile laterals?

A. You mean the west?

Q. I'm sorry. The west side, Section 35?

A. In GMT's opinion, correct.

Q. Right. Those would not get drilled?

A. (Indicating.)

Q. So your drill or no-drill decision is based on the Getty well data point --

A. If that's the well --

Q. -- and 8 percent cutoff?

A. If that's the well in 35, yes.

Q. Yes.

So the answer is yes?

A. Yes. Excuse me.

MR. HALL: Nothing further.

MR. BRUCE: No questions.

EXAMINER JONES: Okay. Thank you, Mr. Dilli.

MR. BRUCE: I'll call BTA's landman.

KENT CHRISTENSEN,

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. Kent Christensen, Midland, Texas.

Q. Who do you work for and in what capacity?

A. BTA Oil Producers. I'm a landman.

Q. And have you previously testified before the Division?

A. Yes.

Q. And were your credentials as an expert petroleum landman accepted as a matter of record?

A. Yes.

Q. Are you familiar with BTA's ownership in the matters regarding Section 35?

A. Yes.

MR. BRUCE: Mr. Examiner, I tender Mr. Christensen as an expert petroleum landman.

MR. HALL: No objection.

EXAMINER McMILLAN: So qualified.

Q. (BY MR. BRUCE) Did you testify a couple of months ago? Did you do that, Mr. Christensen?

A. Yes, I did.

Q. Can you testify --

MR. BRUCE: And I've submitted now to everyone, as BTA Exhibit A, the 1977 -- August 1977 JOA.

Q. (BY MR. BRUCE) And do you have that in front of you? If not, I'll give you mine just in case.

A. I do not.

Q. First of all, did this JOA cover -- it covered, I believe, originally, all of Section 35 and Section 2?

A. Correct.

Q. Was it executed by all the working interest owners with ownership in those sections?

A. Yes.

Q. So total joinder of every well at the time this JOA was --

A. Yeah. No outstanding parties.

Q. Now, because of nondevelopment, the southwest quarter of Section 2 dropped out of this?

A. Correct. It expired.

Q. And that's the GMT acreage that's been discussed?

A. That was the new lease taken.

Q. Now, looking at just the west half of Section 35, does BTA own either a working interest or a contractual interest throughout the west half of Section 35?

A. Both, yes.

Q. And as you testified last time, BTA has filed APDs for two one-mile laterals in the west half of Section 35?

A. Correct.

Q. Does BTA prefer one-mile development of

laterals of the Bone Spring in this area?

A. Yes.

Q. How many Bone Spring wells -- horizontal wells has BTA drilled approximately?

A. In Lea County, specifically?

Q. Lea County.

A. Between 25 and 30.

Q. And that 25 to 30 to date -- you have plans to drill additional wells? BTA has plans to drill additional wells?

A. Correct. We're running four rigs right now.

Q. Like I said, you attended the last hearing, and Black Mountain had various development scenarios. I think at the time BTA discussed that you didn't want the northwest -- take a step back.

Black Mountain is proposing mile-and-a-half laterals, which would exclude the northwest quarter of Section 35; is that correct?

A. Correct. Basically, it would strand our acreage.

Q. Now, BTA -- Black Mountain, again, did present various development scenarios that it said it had looked at and that it was proposing. And I think one of -- one thing they looked at in the northwest quarter of Section 35 is that BTA could potentially be drilling to the

north --

A. Correct.

Q. -- into Section 26 to the north; is that correct?

A. Yes.

Q. Does BTA want to do that?

A. From my understanding, we do not.

Q. And in the west half of Section 35, you already have a JOA in place, correct?

A. Correct.

Q. You don't need to go through any additional title work or forced pooling or anything like that to get wells drilled?

A. No, we do not.

Q. Does BTA operate wells in Section 35 under this JOA?

A. We operate the well in the northwest quarter of Section 35.

Q. And I think there is one or two wells that Black Mountain, now Marathon, operates also?

A. Correct. I'm not 100 percent as to the name, but it's in the southwest quarter, operated by Burgundy, now Marathon, through Black Mountain.

Q. Through Black Mountain?

A. Yeah.

Q. Before Black Mountain filed its forced pooling application and indeed when we went to hearing in May, had Black Mountain proposed its mile-and-a-half laterals to BTA?

A. No.

Q. Are there documents which show that Black Mountain knew or should have known that this JOA was in effect covering the west half of Section 35?

A. It's been referenced throughout the title chain. Specifically, when Black Mountain bought that well in the southwest quarter, there was a change of operatorship that referenced that JOA. And there are a few others that I believe it referenced in the past, but that's one specific one I can remember.

Q. Mr. Christensen, I've handed you an exhibit marked BTA Exhibit B. Is that the change-of-operator form that you just mentioned?

A. Yes.

Q. Does it reference that 1977 JOA?

A. Correct, August 15th, '77.

Q. And it specifically references Section 35?

A. Yes, it does.

Q. Okay. Is it BTA's position that Black Mountain's application should be denied, and that one-mile lateral should be drilled in the west half of

Section 35?

A. Yes.

Q. And were Exhibits A and B compiled from BTA's business records?

A. Yes, they were.

MR. BRUCE: Mr. Examiner, I move the admission of BTA Exhibits A and B.

MR. HALL: No objection.

EXAMINER McMILLAN: BTA Exhibits A and B shall be accepted as part of the record.

(BTA Oil Producers, LLC Exhibit Letters A and B are offered and admitted into evidence.)

MR. BRUCE: And I have no further questions.

CROSS-EXAMINATION

BY MR. HALL:

Q. Mr. Christensen, can you refer me to the provision in the JOA that addresses selection of successor operators?

A. Let's see here.

Q. Well, let me ask you this way: Do you know how successor operators are selected under the JOA?

A. Yes.

Q. How is it?

A. Basically, you have to nominate them and follow the basic rules of proposing the well initially, is what I understood.

Q. All right. And do you know if that was done in this case?

A. No.

Q. You don't know, or it was not done?

A. No, it was not done. That's correct.

Q. And can you explain how both Black Mountain and BTA would be operating on the contract area under this JOA?

A. Well, we farmed into the northwest quarter, earning 93 percent of that acreage. Technically, the contractual interest should exist as long as the JOA is in effect, from my understanding. The simple fact that we currently have a working interest in a well that -- Burgundy through Black Mountain through Marathon now -- they're paying us for a well. So obviously we have a working interest in that well in the southwest quarter.

Q. But can you tell me how it came to be that there are two operators within the same contract area? That's what I'm driving at.

A. Oh, no. I cannot speak to that.

Q. Is there any evidence in BTA's files about the contract area having been subdivided at some point?

A. No.

Q. And did you object to GMT proposing its wells under a new JOA?

A. I do not believe so. I would assume that they would be separate since they don't include our acreage.

Q. All right. Is that common, though, in the industry where lands subject to preexisting JOAs are often proposed to be updated or replaced with new -- well JOAs?

A. Yes.

Q. Is there any prohibition under this operating agreement for someone to propose new wells directly to working interest owners rather than through the operator?

A. I'm not 100 percent certain.

Q. Okay. I have nothing further.

EXAMINER BROOKS: Both attorneys have examined this witness? Yeah, that's right. You were cross-examining.

CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. I call your attention to this operating agreement at page 9 where it says "Resignation of Operator." "Operator may resign from its duties and obligations as Operator at any time upon written notice

of not less than ninety (90) days.... In this case, all parties to this contract shall select by majority vote in interest, not in numbers, a new Operator who shall assume the responsibilities," et cetera. Do you know if that ever happened --

A. No.

Q. -- when Burgundy resigned? You do not know --

A. I'm not aware that actually happened.

Q. Okay. Now, under an operating agreement -- I haven't found that provision in this operating agreement, but I've studied a lot of operating agreements. Generally, they provide, do they not, that if the operator goes nonconsent on a well proposal and the operator that operates the well -- consenting parties, unless the operator elects not to do so, in which case the consenting parties will select one of their number to operate the well? Is that not a common provision?

A. It's common, but you have to make that election.

Q. Okay. Now, let's see what this operating agreement says on the subject, "Operations by Less Than All Parties," page 5. There is a lot of text on page 5 and 6. We're going into 6. I haven't it found yet, anything about it (reading).

It says something about it in the third paragraph on page 6, if one of the consenting parties recover from -- nonconsenting parties relinquish interest of such -- I'm not finding -- I'm not finding -- I guess I don't read operating agreements that fast.

But do you know if there have been any situations where it could change if the operator under this -- if any well could have arisen by virtue of a situation in which where not all parties consented to a previously drilled well?

A. I can't --

Q. That's one way I can think of to come to be two operators.

A. It would depend on the language of that individual operating agreement.

Q. And this operating agreement -- this was never marked as -- no. It's marked as BTA Exhibit A.

Well, after you step down from the stand and Mr. Hall starts his case, I'll ask you to see if you can read that operating agreement and see if there is a possibility, because I can't read it and listen to anything else at the same time. But I don't want you-all to have to just sit there while I read two pages of fine print.

A. Understood.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. You said the northwest of 35 would be stranded if Black Mountain's applications go ahead. And can you just put that in words one more time why you say that?

A. As to the whole west half of 35, we already own over half of the acreage outright, so in the northwest quarter, we own 93 percent of a well we operate in the acreage as well. Them extending their mile-and-a-half up through the southwest quarter would leave our 160 on its own. We don't own the leasehold to the north.

Q. In Section 26?

A. Correct.

Q. But you own 8-and-a-half percent of the southwest quarter of --

A. 9.6.

Q. 9.6 of 35. Is that the same thing you said in the last hearing, 9.6?

A. I said somewhere around 9, I believe. Yeah.

Q. Okay. So your people want to drill a one-mile well in the west half of 35?

A. Correct.

Q. And did your people talk about drilling a two-mile well from the -- that includes 35 and Section 2

and go into partners with GMT on that?

A. No.

Q. Have they talked to them about that?

A. No.

EXAMINER BROOKS: Okay. I'm sorry. I didn't finish the questions I should have asked you here.

CONTINUED CROSS-EXAMINATION

BY EXAMINER BROOKS:

Q. I'm talking about BTA Exhibit A. Is it your contention that BTA is the operator now under this agreement dated August 15th, 1977, which is BTA Exhibit A?

A. As to the northwest quarter? Yes.

Q. To the northwest quarter of what?

A. Of 35, yeah. But obviously we have the right to operate throughout the contract area.

Q. How do you get that right if there has never been an election? How did you acquire that right?

A. The interest that we bought specifically referenced conveyances, contractual interests in the operating area, referencing the JOA and --

Q. That's an agreement from -- conveyance from Burgundy?

A. No, sir.

Q. Okay. The only thing I have before me is BTA Exhibit B, which is merely a resignation of operator. It's not a conveyance as far as I can tell.

A. Yeah. I don't believe we've provided those documents conveying us the interest.

Q. Okay. So you've got a conveyance from a person who was a prior operator of the rights to operate, as well as the rights to the, roughly, working interest?

A. Correct.

Q. And it's there we get back to this question: Does the operator in this operating agreement have a right to convey the right to operate? So I'm still not sure we've gotten there, but I don't know what questions to ask at this point.

Mr. Scott Hall may have some contribution to make at a later time, but I'm going to leave it there.

RECROSS EXAMINATION

BY MR. HALL:

Q. Just one more question so we're clear on this. BTA does have a right to propose wells in the northwest of 35, including one-mile laterals extending up into Section 26, right? Do you have the right to do that?

A. Not into 26.

Q. Do you have the right to propose them to the

owners in 26?

A. Yes.

Q. There is nothing preventing you from doing that?

A. No. We'd have to -- I assume we'd have to amend the contract, but Section 26 is not part of the contractual issues that we're discussing. It's not included in the original JOA at all.

RECROSS EXAMINATION

BY EXAMINER BROOKS:

Q. So the right that you would have to propose to drill a well up into 26 would be the same right that any offsetting right would have to propose such a well, and it doesn't have any legal effect unless they accept?

A. Correct.

Q. Thank you.

MR. HALL: Nothing further.

MR. BRUCE: I have a couple of follow-up questions.

EXAMINER BROOKS: Go ahead.

REDIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Christensen, BTA acquired interest -- I believe it was probably over 15 years ago?

A. Yes.

Q. In the west half of Section 35?

A. Correct.

Q. And it drilled, I think, a Morrow well or something at that point?

A. Either Atoka or Morrow, one of the two.

Q. Might have been recompleted uphole?

A. Correct.

Q. And with regard to that resignation of operator form -- and I'm pretty sure of this, and I think you know this too -- Black Mountain, now Marathon, owns the vast majority of interest in the southwest of Section 35?

A. Yes.

Q. Whereas, BTA owns 93 percent in the northwest quarter.

So Burgundy, who sold that interest to Black Mountain, with the percentage it owned, could have designated Black Mountain operator of the southwest quarter well?

A. Yes, I believe so.

MR. BRUCE: That's all I have.

EXAMINER BROOKS: Were you through?

EXAMINER JONES: Yes.

EXAMINER BROOKS: Scott, do you have anything further?

MR. HALL: I have nothing.

EXAMINER BROOKS: I guess we can release this witness; can we not?

MR. BRUCE: And those are the last of my witnesses.

MR. HALL: I have two witnesses. I'd like to call Ryan Gyllenband to the stand.

RYAN GYLLENBAND,

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

DIRECT EXAMINATION

BY MR. HALL:

Q. For the record, please state your name.

A. My name is Ryan Gyllenband.

Q. Mr. Gyllenband, where do you live and by whom are you employed?

A. I live in Houston, Texas, and I'm employed by Marathon Oil as a senior land professional.

Q. And are you authorized to testify for Marathon Oil Permian, LLC's behalf today?

A. Yes, I am.

Q. Let me ask you: Has Marathon acquired its interest from Black Mountain Operating that have been the subject of these proceedings?

A. Yes. Marathon acquired the interest on June

1st, and Marathon will be the successor operator.

Q. All right. And has Marathon taken possession of Black Mountain's files?

A. Yes. We've taken position of the files.

Q. Including the files on these properties?

A. Yes, sir.

Q. Are they now maintained in the ordinary course of business for Marathon?

A. Yes, sir.

Q. Have you taken the opportunity to become familiar with those files and the well proposals that are involved here?

A. Yes, I have.

Q. Now, you've not previously testified before the Division examiners, have you?

A. No, sir.

Q. All right. Let's -- if you would, please, give a brief summary of your educational background and work experience.

A. I have a bachelor's degree in civil engineering and a master's in real estate from Texas A & M University. I've worked as a land professional for the last six-and-a-half years, the last three with Marathon.

Q. And you're familiar with the applications that have been filed in these matters?

A. Yes.

Q. And you're familiar with the land of the subject area?

A. Yes.

MR. HALL: Mr. Examiner, we'd offer Mr. Gyllenband as a qualified petroleum landman.

MR. BRUCE: No objection.

EXAMINER McMILLAN: So qualified.

Q. (BY MR. HALL) Now, Mr. Gyllenband, you've examined the land files for this particular acreage, correct?

A. Yes.

Q. And have you reviewed the 1977 JOA that we've been talking about here today?

A. Yes.

Q. And do you agree that the southwest quarter of Section 2 fell out of the JOA contract area?

A. Yes, or at least covering that expired and it fell out of the contract area.

Q. And GMT acquired a replacement lease by sale?

A. That's correct.

Q. And is it your understanding that the reason that Black Mountain included the southwest quarter of Section 2 in its well proposals is to prevent that acreage from being stranded?

A. Yes. That's my understanding.

Q. It was unlikely to be developed under the 1977 JOA, correct?

A. That's correct.

Q. Is it your understanding that Black Mountain succeed -- succeeded Getty Oil Company as operator under the '77 JOA?

A. Yes. That's my understanding.

Q. And so Black Mountain in the past and Marathon presently now operates wells in the JOA contract --

A. Yes. Black Mountain, now Marathon, operates three wells on the contract area, the Getty State 1 and 2 wells and the San Simon 2 State well. BTA operates the Burgundy 1 well, which is in the northwest quarter of Section 35. That northwest quarter of 35 appears to have been carved out of the JOA, but our records are incomplete on that because we don't own an interest in that portion of 35.

Q. When you say carved out, does it appear that the acreage -- the contract area acreage has been subdivided? Is that reasonable?

A. That's what it appears looking at those records.

Q. In your experience, is it unusual for operators to propose new horizontal well JOAs which include some

acreage that are subject to a pre-existing JOA?

A. No. In my experience, that's not unusual, especially because the 1977 JOA was proposed with vertical wells in mind, and now in the horizontal environment, it's necessary to propose new JOAs that contemplate horizontal drilling.

Q. All right. And that's what both Black Mountain and GMT have done, correct?

A. Correct.

Q. Let's look at Exhibit 15, if you would. Now, is it your understanding from the prior hearing, the transcript from that hearing, that there was some concern about a conflict with the surface for the location -- the surface locations that were proposed by Black Mountain?

A. Yes.

Q. If we look at Exhibit 15, can you identify that, please?

A. Exhibit 15 is an email chain between Robbie Zimmerman and Black Mountain and Scott Spicher at 3 Bear Energy.

Q. And what was the subject of that email chain?

A. The last email correspondence between them, it appears that there was a phone conversation previously on that day where they discussed that 3 Bear's location

in the south part of Section 2 was just a backup location. It was not their main target area of where they were going to put their processing plant. And then Mr. Zimmerman went on to say that Black Mountain would be able to accommodate them if they do end up going with that -- with that proposed spot in the south part of Section 2. And that's also Marathon's position, that we would be able to accommodate that, and I believe we're going to get to that in the next exhibit.

Q. Let's just walk through this briefly. Page 2 of Exhibit 15, the bottom page is the first contact by Black Mountain to 3 Bear; is that right?

A. Correct.

Q. And the response to that, there was a phone call and a note, an e-mail, and that was Scott Spicher's response. It's at the bottom of page 1 of that, correct?

A. That's right.

Q. Does it indicate that all that 3 Bear had in hands at the time was a letter of intent from the landowner?

A. That's right. It just appears that they had just a letter of intent and not something more formal.

Q. There is no lease? No conveyance?

A. Correct.

Q. And then Mr. Zimmerman responded to Mr. Spicher's note. He basically recounted telephonic conversation that they had in his email?

A. Yes, sir.

Q. And to your knowledge, Mr. Spicher never countermanded what was represented by Mr. Zimmerman?

A. Correct.

Q. Let's look at Exhibit 16. Could you identify that, please?

A. Exhibit 16 is showing the two proposed wells for the Black Mountain, originally proposed, and this is showing the 3 Bear facility where they had plan to do it in the south portion of Section 2 and how the wells would still be drillable, and we would be able to accommodate that, if need be, in our surface location.

Q. And does that remain Marathon's position as well?

A. That's our position as well.

Q. Let's look at Exhibit 17. What does that show us?

A. This exhibit shows some locations on the northside of the contract area where we're proposing, which is actually where Marathon plans to drill the wells from. We plan to drill them from the north side of the southwest quarter of 35, north to south into

Section 2. And we already have a surface-use agreement with the surface owner in Section 35 and Section 2 covering this entire area.

Q. And the surface owner is Merchant Livestock; is that right?

A. They own the surface in Section 2, and then they're a lessee on the surface use in 35.

Q. All right. And what is Merchant's practice with respect to amending that surface-use agreement to provide for any locations?

A. Each time that there is a well proposed, they amend and include an addendum showing where the pad is located.

Q. If the wells are drilled from north to south, do you have footage calls for the surface location in that event?

A. We would be able to provide those. Yes.

MR. HALL: We'll be glad to do that after the hearing.

EXAMINER McMILLAN: We're going to have to have that. Yes.

Q. (BY MR. HALL) Did you review Black Mountain's AFE -- both AFEs for the wells?

A. I did.

Q. And is it Marathon's position that those

itemized costs -- cost estimates continue to be in line?

A. Yes.

Q. Does Marathon see any need to change them at this point?

A. No, not at this time.

Q. And do Black Mountain's estimates of overhead and administrative costs, 7,000 per month while drilling and 700 per month while producing, continue to be in line?

A. Yes, sir.

Q. And is Marathon recommending that these drilling and producing overhead rates be incorporated into the order that results from this hearing?

A. Yes.

Q. And is Marathon also requesting that the order provide for adjustments to the rates in accordance with the COPAS accounting procedures?

A. Yes.

Q. And is Marathon also requesting that the order designate Marathon Oil Permian as the operator of the two wells?

A. Yes.

Q. And Marathon Oil is also asking that the Division pool whatever enjoined interest of any kind in the two project areas; is that right?

A. Yes.

Q. Marathon's not exactly a new entrant into New Mexico, correct?

A. Correct. Marathon's operated and has had operated and nonoperated positions in New Mexico for the past several decades. We're also very active in three other shale plays in the U.S. We're currently running three rigs in the Permian at this time and have plans to potentially add some more next year. And we also have plans to -- as you can see on Exhibit 17, to continue to develop this area in Section 25 and 36 as well.

Q. All right. Is Marathon looking at the Wolfcamp as well?

A. Yes, sir.

Q. In your opinion, would the granting of Black Mountain's and Marathon's application be in the interest of conservation and the prevention of waste and the protection of correlative rights?

A. Yes. It would allow for the development of 330 feet on either side of 35 and 2 that otherwise would not be reached.

Q. And were Exhibits 15 through 17 prepared by you or derived from company records maintained in the ordinary course?

A. Yes.

MR. HALL: I'd tender admission of Exhibits 15 through 17.

And that concludes my direct of this witness.

MR. BRUCE: No objection.

EXAMINER McMILLAN: Exhibits 15 through 17 may now be accepted as part of the record.

(Marathon Oil Company Exhibit Numbers 15 through 17 are offered and admitted into evidence.)

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Just a few questions. Looking at Exhibit -- And I apologize. Is your name pronounced with a hard G or a soft G?

A. Gyllenband.

Q. That's what I thought.

Looking at your Exhibit 17, Mr. Gyllenband, are the proposed well locations now in Section -- surface locations now in Section 35?

A. Correct.

Q. And you have talked about the northwest quarter of Section 35 being carved out of the 1977 JOA. Can you produce any document stating that that is the case?

A. None other than the fact that we don't show any

ownership of Marathon in that entire 160 acres.

Q. Well, this JOA covered what? The 640 areas of land, correct, originally?

A. Originally. Originally, it covered 1,280.

Q. 1,280. Excuse me. 1,280.

And it's 40 years old now?

A. (Indicating.)

Q. Lots of assignments?

A. Sure.

Q. Isn't it common with these old JOAs where the maintenance of uniform provisions were ignored, but the contract area is still in effect?

A. Yes.

Q. And, of course, GMT owns -- is not subject to that JOA at all?

A. That's -- yes. That's correct.

Q. So it can propose whatever it wants?

A. Correct.

Q. It's not subject to the '77 JOA?

A. They're not.

MR. BRUCE: That's all I have, Mr. Examiner.

CROSS-EXAMINATION

BY EXAMINER McMILLAN:

Q. Okay. What was your justification for moving

the surface location?

A. We prefer to drill from north to south, and there was the issue of the potential facility. And so we just felt that those combined, we decided to move them to the north.

Q. So preferring towards the south, is there -- so why do you prefer to drill versus to the north?

A. I'm sorry?

Q. You said you prefer to drill from the north to the south.

A. Correct.

Q. Why is that better than south to north?

A. I think just -- it was mostly the surface consideration.

Q. Okay. So you're really not saying -- so you're first saying it was not -- you really -- so to clarify, you're saying you changed orientation because of the surface issue?

A. For the most part, yes.

Q. Okay. Did it also have anything to do with the fact that in the southwest quarter of Section 2 you have no leasehold interest?

A. No.

Q. Was that a factor at all?

A. No.

Q. And I believe you stated the AFEs did not change?

A. Correct.

Q. Were you concerned -- since you have an interest in the southwest quarter, do you feel that would have any bearing on the case?

A. No.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. In the offer in your letters that you've included here, in handling your gas and processing, that plant would be in the southwest -- southwest of Section 2; is that correct?

A. If they went with that, but it's my understanding that 3 Bear intends to put the plant somewhere else.

Q. Oh, they do?

A. Yes.

Q. That was just a possible location?

A. Correct. It was the backup. I don't know what's transpired since then, but at this time, it was a backup location.

Q. So you would build a surface facility back in Letter L, probably, is that correct, of Section 35?

A. Correct.

Q. And where would you sell your gas?

A. I don't know that answer yet.

Q. But you'd sell it somewhere?

A. Correct.

Q. Okay.

EXAMINER BROOKS: I have no questions.

MR. HALL: I have nothing further of this witness.

MR. BRUCE: I have nothing.

EXAMINER JONES: You have one more witness?

MR. HALL: I have one more witness.

While we're doing land, I'm going to introduce --

EXAMINER JONES: I have to run and give this to Florene, so maybe a five-minute break?

EXAMINER BROOKS: Yeah. Let's do that. That's a good idea.

MR. HALL: Can I just say -- so Exhibit 18, we move the admission of Exhibit 18. It is our supplement Affidavit of Notice.

MR. BRUCE: No.

EXAMINER McMILLAN: Exhibit 16 through 18 may now be accepted as part of the record.

(Marathon Oil Company Exhibit Numbers 16 through 18 are offered and admitted into

evidence.)

(Recess, 4:20 p.m. to 4:27 p.m.)

EXAMINER McMILLAN: At this point I'd like to call the hearing back to order.

MR. HALL: At this time, Mr. Examiner, we'd like to call Roy Wilty to the stand.

EXAMINER McMILLAN: Please proceed.

ROY H. WILTY, JR.,

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

DIRECT EXAMINATION

BY MR. HALL:

Q. For the record, please state your name.

A. Roy Wilty.

Q. Mr. Wilty, where do you live and by whom are you employed?

A. I live in Houston, and I'm employed by Marathon Oil.

Q. And in what capacity?

A. I'm the subsurface supervisor for the Permian Asset Team.

Q. All right. And are you familiar with the matters in these two compulsory pooling cases -- these four. I'm sorry.

A. Yes, I am.

Q. And have you reviewed the transcript of testimony and the exhibits from the prior case?

A. Yes, I have.

Q. And have you assessed Black Mountain's geologic presentation?

A. Yes, I have.

Q. Did you agree with their conclusions?

A. In general, yes.

Q. What did you do to verify those?

A. Well, there were two maps and a cross section, I believe, that were presented by Mr. Moore in May, and so we cc'd those internally with our Well Control.

Q. And you agree with their geologic assessment of these wells?

A. Yes, in general. I think we spoke a lot earlier about porosity cutoffs and whatnot, and I believe they used a 6 percent cutoff. So, of course, their maps look considerably different than what we've seen so far today. But I think based on that cutoff, the general trend of reservoir degradation to the northeast maintains, but it's not as abrupt as what's been shown with the maps that were presented earlier.

Q. All right. Let's look at some of those. We should focus on GMT's Exhibit B, and let's look at page 4 of that, the isopach, 3rd Bone.

EXAMINER McMILLAN: What page are we on?

MR. HALL: Page 4, Exhibit B.

Q. (BY MR. HALL) Do you understand the contours shown on Exhibit 4 were handdrawn?

A. That's my understanding.

Q. And is there the possibility for bias to creep into where you locate your contours?

A. Sure. That's -- that's, I guess, not uncommon when contouring. Hand contouring single values from a map like this, that's possible.

Q. And it's simply interpretation; is it not?

A. It is. It's interpretation.

Q. And geologic professionals will disagree with interpretation on occasion?

A. Yes. That's quite common.

Q. All right.

A. These are -- so as I understand, they're hand-drawn contours on a computer screen?

Q. Right.

A. So they're computer-generated but drawn by hand, essentially.

Q. In establishing these contour lines by anyone, how sensitive are the contours to the porosity values that are used off of the well logs?

A. Well, I mean, I think the contour values

themselves are based on the net pay values that are represented at the well points here, so on this exhibit, the red numbers above the well symbols. But as we discussed earlier, I think the actual -- those actual values of net reservoir are quite sensitive to the porosity values, especially if we're using the methodology that was presented with an 8 percent cutoff. I think just some -- a relatively quick look, but I think it will give us an idea of the sensitivity when you decrease the cutoff to 7 percent within that 80-foot gross interval of Lower 3rd Bone Spring Sand. I think -- so just a 1 percent change in porosity cutoff yields twice the net reservoir. So it would go from, say, 22 feet to perhaps 45 feet. And if you further reduce that to 6 percent cutoff, which is not unheard of, to use a 6 percent cutoff to evaluate net reservoir, that could bring that value up as high as 60 feet, which, again, is well beyond what's been proposed as a minimum cutoff by GMT.

Q. So alternate contour lines are possible, sir?

A. Well, that's another topic. There are alternate -- alternate ways to generate the net reservoir numbers by changing the porosity, even the cutoff just slightly, and then there are also alternate ways to contour. And just as an example --

EXAMINER McMILLAN: Stop. He hasn't been sworn in as an expert witness.

MR. HALL: Darn it. My oversight. I apologize.

Mr. Examiner, would the witness' credentials as an expert petroleum geologist be accepted?

MR. BRUCE: No objection.

EXAMINER McMILLAN: Okay. He's qualified. Proceed.

MR. HALL: Thank you. It was a good catch.

THE WITNESS: So I guess the point might be that in this particular case -- and I'm sure there are data points outside of the area of interest shown here on this page. But given just the data that's shown here, I think there are probable -- probably multiple alternate interpretations, especially for the 20-foot contour, which I think is the critical contour in this case, using that particular cutoff and that criteria, which I'm not saying I agree with. But if you did use that cutoff and choose to honor that 20-foot contour, you can see that there is a 22-foot value in the center -- roughly center, west of center of Section 35, and there is another 32-foot value there in the northwest section -- or northeast section of 34. My

point is I think there are multiple ways you could connect that 20-foot contour around there. That would either -- could put more or less of that sub 20 feet into that critical section of the southwest of 35. Does that make sense?

So if we're using that cutoff and then the contours that are derived from the cutoff, which are hand contours, as a go or no-go decision for economics of the southwestern corner of Section 35, I guess my point is that there are multiple layers of not just uncertainty but potential interpretation bias that are introduced not only just in the decision for the 8 percent cutoff versus, say, a 7 percent cutoff, which could literally double your net pay value, to the hand contouring to, you know, the fact that even in that southwest section of 35, only about a third of that is less than 20 feet of net pay.

Q. Right. If we except that interpretation?

A. If you accept this interpretation. You could change this interpretation very easily, I guess is my point, to say there is nothing less than 20 feet in the southwest quarter of 35.

Q. Right.

So the key data point -- is a key data point for drawing that 20-foot contour in the

surrounding contours that well in the southwest section of 35?

A. It is, unless there are other data points outside the area of interest on this map that guide that 20-foot thin to the southwest. And there may be, but, again, they're not -- it's not clear on this map that that's the case. And so given the data points shown here, there are other interpretations that I think could, as I said, you know, change the average thickness -- net pay thickness in the south part of 35.

Q. All right. You've heard Mr. Dilli use the term "economic wells" several times today. We've referred to several wells that were drilled in porosity of less than 8 percent. Does that automatically render every well proposal invalid?

A. No, it shouldn't, especially given that -- using a 20-foot cutoff like that and then assuming, you know, economic either viability or the nonviability on either side of the contour. These are a gradational changes in geology. We don't see changes that happen immediately at unit boundaries or section boundaries. So there is uncertainty in where that cutoff is, and then there is also uncertainty whether 8 percent would even be a hard cutoff for an economic well.

Q. Mr. Dilli testified earlier that an economic

well must have 280 million MBOE greater to be economic. Do you recall him saying that?

A. I'm sorry?

Q. And he referred to the GMT Vitalizer at 558 MBOE.

A. Yes.

EXAMINER McMILLAN: Exhibit 8, page 2.

THE WITNESS: Page 2, yes.

Yes, 558 MBOE, EUR number. It's shown here, correct.

Q. (BY MR. HALL) So is it reasonable to say that the Vitalizer would have become uneconomic if it had lost more than 50 percent of its EUR simply by reducing the 70 feet of target pay by 12 percent? Is that what you get when you go from 8 percent to 7 percent?

A. And, again, we're talking net pay above -- you know, we're not even saying, I think, that the average porosity would be 7 percent. The average porosity would actually be probably higher than 7 percent. We're just talking about the cutoff that's being used to determine net reservoir thickness, correct?

So I think there are too many other -- to say that a 1 percent porosity unit cutoff and how you determine the net pay is going to -- is going to really change an EUR given the variation and completion quality

and landing zone uncertainty, as we saw with the Devon example -- just some slight variation in the landing zone along the lateral could vastly affect what your well performance and EUR is. So I think the 1 percent porosity -- I think we're getting hung up on a -- not hung up. I mean, it is an important issue, but we're talking about one part of what ultimately contributes to a well's EUR. And that 1 percent change in how we determine a net -- or net reservoir cutoff, I don't believe would -- should vastly change that, not by 12 percent.

Q. All right. Do you have an opinion whether developing Section 2 with one-mile laterals as opposed to developing Sections 2 and 35 with mile-and-a-half laterals would result in waste?

A. Sure. I think the first scenario of one-mile laterals would result in waste.

Q. All right. And if you develop these wells respecting the 330 setback for one-mile laterals on either side of the section line, are you leaving 660 feet of reservoir unrecovered?

A. You would be.

Q. And would that result in waste?

A. Yes.

Q. Anything further to add?

A. No.

MR. HALL: That concludes my direct of Mr. Wilty.

EXAMINER McMILLAN: Please proceed.

MR. BRUCE: Well, Mr. Examiner, I could spend a lot of time requesting or with your permission, after Mr. Wilty is done, I can put Mr. Dilli up and ask him three questions and get that out of the way rather than cross-examining this witness.

MR. HALL: My understanding is he was offered for rebuttal.

EXAMINER BROOKS: Explain what's going on here.

MR. BRUCE: Okay. Well, I'll just -- there's nothing secret about this. I'll ask Mr. Wilty a couple of questions.

The one thing I want that Mr. Dilli can state -- Mr. Wilty said, Well, he's saying basically all of the southwest quarter of Section 35 is 20 feet of 8 percent porosity, he said. And then his next statement was, Well, unless there is regional mapping or points outside of the plat submitted, that can have an effect on these trends. And he didn't really say it that way, but Mr. Dilli, he's -- as he stated, he mapped, basically, all of the Bone Spring, and he has a lot of

regional maps. And I would like to get that in the record, and this is where --

EXAMINER BROOKS: Well, I'm going to call on the principle and overrule objections, and let the Commission worry about it.

MR. BRUCE: Really that's the only question I want to ask him. I will ask Mr. Wilty this.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. When you're talking about -- you said in general that you agreed with Black Mountain's geology; is that correct?

A. It is, but I can elaborate a little bit in that I think what they showed from a geologic perspective was relatively -- not to say basic, but I think they showed a structure map and a net isopach greater than 6 percent and a cross section of four wells.

Q. Okay.

A. And so what were shown on those three exhibits, I don't disagree with.

Q. I understand that.

But what Black Mountain did was their isopach, whether you're looking at the 3rd Bone Spring, which is the one I have in front of me, which is Black Mountain's Exhibit 9, or the 2nd Bone Spring -- what

they're doing is targeting a 6 percent cutoff throughout the entire 3rd Bone Spring section, and they're not looking at the target zone; is that correct?

A. That's correct.

Q. So what they're looking at is -- like, on their Exhibit 9, they're showing -- in Section 2 and the south half of Section 31, they're showing 200 to 240 feet.

A. Of -- of net?

Q. Yes.

A. Which is out of 300-and-something feet of gross, let's just say?

Q. Yeah.

A. Right.

Q. So what they're doing, they're not just looking at the horizontal target zone. They're looking at virtually the entire interval.

A. So as I understand it, looking at Exhibit 7, is that not how the values for the contours -- I'm sorry. Page 7 of Exhibit B, I believe -- sorry. The three-well cross section we've referred to mostly on Exhibit B --

Q. Yeah.

A. -- that's exactly what's shown here. Because if I'm not mistaken, there's red -- there's red net flags, which are shown -- looking at the Great Western well, A, on the left side, it says the net section of

landing zone that -- I guess your target zone, which is labeled "3rd Bone Spring Lower Sand," looks to be about 60 -- 65 feet of gross. Am I right? So the contour value on the map on the previous page is actually over 100 feet. So you would have to be including all of that. So I think it's exactly what's done here, just a different cutoff.

Q. No.

A. No?

Q. Aren't they -- aren't they -- if you go to page 4, they're just looking strictly at the lower sand.

A. I'm sorry. Page 4 of --

Q. Page 4 of Exhibit B, GMT Exhibit B. They're just looking strictly at the lower sand. So then --

A. So if that's the case --

Q. Go to page -- excuse me. If you go to page 7, they highlight that by a bracket.

A. Okay.

Q. And so what I'm saying is Black Mountain's basically looking at the entire interval, and GMT is just looking at the target zone?

A. Oh, okay. So I guess when I'm looking at page 4, the 3rd Bone Spring lower sand map, where it says "A" at the bottom for the A to A prime, that's the Great Western well. So there is a 100-foot contour around

that. So I'm not sure how you get a 100-foot contour when right inside that contour you're showing a 45-foot data point.

There seems to be some disagreement with the contours -- like, in other words, the maximum -- the maximum net thickness value on this for the 3rd Bone Spring lower in Section 11, well, there is, I guess, a 50-foot point up here to the very northwest of the map. Other than that, that point at A is 45 feet, correct? It's right underneath the contour -- the 100-foot contour. There is a 100-foot contour with a 45-foot data point underneath it. So --

Q. Yeah. In Section 11, yes.

A. Yeah.

Q. But when you look at Section 11 --

A. That's this well here, Great Western, A. So this is the --

EXAMINER McMILLAN: Is Black Mountain, for reference, a net 6 percent cross porosity?

MR. BRUCE: Yes.

Q. (BY MR. BRUCE) And so in Section 11, Black Mountain's showing 315 feet?

A. But I'm not -- I'm referring to page 4 of Exhibit B, if we can get past this point, because I think what I'm saying here -- you're saying that --

Q. But you're looking at -- okay. I understand what you're saying.

A. Okay. So are we clear that the contours on here are inaccurate? Because at least that 100-foot contour cannot be accurate if that 45-foot data point is accurate.

Q. What they're looking at is 45 feet is still over 20 feet, correct?

A. Lat time I checked, yeah (laughter.)

Q. And I used to be an engineer. I used to know this stuff.

And then when you talk about 6 or 7 percent, Mr. Dilli did point out examples where wells with just 7 percent -- no higher than 7 percent porosity, the target zones were not economic.

A. No higher than 7 percent. But in this target zone, there is higher than 7 percent porosity, correct?

Q. Yeah. But what you were saying at the time --

A. But if it's no higher than 7 percent porosity in a pay zone, that means you have to have -- your average porosity would be much less than 7.

EXAMINER McMILLAN: Wait. Let him finish the question.

THE WITNESS: Okay. Okay.

EXAMINER McMILLAN: Please proceed.

Q. (BY MR. BRUCE) All I'm saying, yes or no, did Mr. Dilli show examples of wells that had no more than 7 percent as not being economic?

A. That's correct. Economic, but what's -- yeah. But my point --

Q. Just to reiterate the point, his basis of 8 percent cutoff was based on drilling 40 wells, correct?

A. As I understand it, yes.

MR. BRUCE: That's really all I have, Mr. Examiner. But I would like Mr. Dilli at some point to get up to explain that he did do regional mapping. And so it's not just looking at this little snapshot of three sections of land that made -- that shows where he placed these lines.

EXAMINER BROOKS: Okay. Well, I think you're entitled to do that because you started with him. So you can put him on after the opposing witness has testified.

MR. BRUCE: I have no more questions of Mr. Wilty.

EXAMINER BROOKS: Are you passing the witness?

MR. BRUCE: Yes, I am.

EXAMINER BROOKS: Okay. Mr. Hall?

REDIRECT EXAMINATION

BY MR. HALL:

Q. Just to clear up the discrepancy about the contours, look at Exhibit B, page 4 --

A. Okay.

Q. -- the well data point they're using to establish their 100-foot contour there.

A. Yes.

Q. And then we turn to page 7. We look at the log for that well. How much thickness does it show for the 3rd Bone Spring Sand?

A. It looks like the gross thickness is a little over 60 feet, perhaps.

Q. The target?

A. Where it says "3rd Bone Spring Lower Sand" would be the Great Western well. It looks like probably 65 feet of gross, which would be less than what's being presented here as a 3rd Bone Spring lower sand net value.

Q. Okay. That's all I have.

THE WITNESS: And I think -- I'm sorry. I think the data point is below -- it's kind of beneath the contour, but it says "45." So that would make sense, 45 foot net out of 60 feet gross for that section, which would change the contouring considerably

in the lower portion of this map.

MR. HALL: Pass the witness.

EXAMINER JONES: Mike?

CROSS-EXAMINATION

BY EXAMINER McMILLAN:

Q. So what do you believe would be the correct -- what's the best indicator for an economical well?

A. You know, that's -- from a reservoir standpoint, how you define reservoir, it's -- I mean, it's a difficult question. If that's the one -- because I don't think it's purely the -- there's -- there's probably three big buckets of factors that go into that. It's the storage capacity of the reservoir. It's the completion quality, and it's how much energy is in the reservoir itself. So you've got three factors.

So if you just hone in on one of those, which would be the storage capacity or the reservoir quality, you know, I don't -- I think it's probably a combination of the porosity and also looking at the appropriate facies.

We are trying to understand whether or not it's mainly a carbonate or a sand facies within the 3rd Bone Spring. And so we're using a combination of both facies, which we think is more favorable for performance, or sandy facies, as well as porosity. So

we're just basing it on the porosity cutoff alone. So we may say, Let's define where the sand facies is, plus an additional porosity qualifier as well.

But, again, I think to say that an economic well is solely based on having greater than 8 percent porosity net over greater than a 20-foot interval ignores the myriad of other -- other criteria that go into making an economic well.

Q. So you're saying that's too simplistic of a model?

A. Yes, I do.

Now, there is always -- there is always a need to high grade, and I understand. That's why we used maps like this to understand where we would do one thing versus another. But to say there is a hard 8 percent porosity cutoff for a net sand and beyond there, there are dragons, we don't go there, I think ignores -- ignores a lot of other criteria that we're trying to focus on.

Q. Okay. But, I mean, it appears to me -- first of all, facies. It's kind of obvious. It appears to be a lower sand. I mean, I don't really see a lot of -- it's really hard looking at the gamma ray to say you've got a line there.

A. No, no. I think that's just a general approach

for these particular wells. I think you will see that the amount of sand and the amount of carbonate does change laterally. We definitely see that as we go in this particular section. That's why I don't disagree with the overall concept that reservoir quality is degrading further to the north and northeast. But beyond the project area that we're discussing today, I think you're going to see an increase in carbonate content, as well as a decrease in porosity, much less than -- less than 5 percent porosity. So you're going to see much less porosity. There would be no question about economics as you go further to the northeast. So --

Q. So what you're saying s you're expecting to see reservoir continuity throughout the project area?

A. Yes.

Q. That's what you're saying?

A. Absolutely.

EXAMINER McMILLAN: Go ahead.

EXAMINER JONES: I think I'm not going to ask any questions (laughter).

THE WITNESS: I don't know if that's good or bad.

MR. BRUCE: I've never seen that happen.

EXAMINER JONES: Well, I could, but --

EXAMINER McMILLAN: Ask questions.

EXAMINER JONES: Well, I think he's -- you know, I don't really think it would be productive for me to ask questions.

EXAMINER BROOKS: No questions.

MR. HALL: That concludes our case.

MR. BRUCE: If Mr. Dilli could just testify from here, I just have one question for him.

MIKE DILLI,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Mr. Dilli, did you use regional mapping in preparing your exhibits for presentation in May and this month, and are there points outside of the plats that you show that relate to how you map this area?

A. Absolutely.

This will be real quick, Exhibit A, page 4. I stated earlier that I had mapped, basically, the entire Lea County, all these formations. And the only reason I point that out is, you see the gray arrows, the light gray arrows on the map there or the gray lines with a couple of arrowheads on them, those are my

regional -- you know, that's taking my regional map of the entire Lea County. Those are regional thicks. Okay? So if you're on a regional thick, you're going to contour thick as it goes through an area where you might not have enough well control. Consequently, there are regional thins, like the ones shown on the previous map.

Q. So you didn't look at just --

A. No.

Q. -- wells on that page 4 --

A. No.

Q. -- of that?

MR. BRUCE: Okay. That's all I have.

CROSS-EXAMINATION

BY EXAMINER McMILLAN:

Q. So why is there a discrepancy in the Great Western Well with the contour?

A. I could -- I can tell you why. And if you look at the Great Western well -- is that the one you're referring to?

Q. Yeah. It's the Great Western State.

A. In a previous regional mapping scenario -- if you look at -- if you look at the Lower 3rd Bone Spring --

Q. Excuse me? I'm sorry. I apologize. I didn't hear you clearly.

A. If you'll look at the Lower 3rd Bone Spring, that orange cutoff, and then down to, say, top of Wolfcamp A, that's all sandy in there. See all the yellow? So the 3rd Bone Spring lower sand and Wolfcamp X-Y. So if you see what I'm saying, that's -- if you lump all that together, what had happened was -- and, I mean, it's a technical -- the Great Western well, if you see those little black tick marks right there where that gamma ray kicks off between the lower 3rd, that's where they set the intermediate casing. And so I had originally picked, at one time, right below that as my 3rd Bone Spring, and it's really X-Y. I mean, it's all sand. It's just that that's what the discrepancy in that map is. You still have -- the contouring was not re-adjusted for the 45-foot, but 45 is still plenty, if you follow what I'm saying.

Q. So, basically, it appears to me what you're saying is that you're going --

A. The top of the Wolfcamp, I moved it later based on --

Q. Okay.

A. But that whole thing is sandy.

Q. So, basically, all you're saying is that your map is really a conglomeration of the 3rd Bone Spring and a portion of the X-Y?

A. The contouring is correct. The data point is only in the 3rd Bone Spring, the data point where it says "45."

Q. Well --

A. Yes, sir. And it's --

Q. Okay. So then that begs the question: When you're looking at this, you talked in your testimony in the 3rd Bone Spring and you referred back to this map, which is conglomeration of the two, of the 3rd Bone Spring and the --

A. And the very top of the Upper Wolfcamp or the X-Y or the Upper Wolfcamp.

Q. The infamous -- it's called the Wolfbone.

EXAMINER JONES: Oh, no.

(Laughter.)

Q. (BY EXAMINER McMILLAN) You can see all sides in here.

A. Whatever you want to call it.

Q. So with that in mind, looking at your contour, do you see a direct -- is there still a direct relationship between the 3rd Bone Spring and the Wolfbone and the quality of the 3rd Bone Spring lower sand economic wells?

A. Yes, sir. If you look at the cross section for the Mitchell State well and then the Getty --

Q. Slow down.

A. Okay.

-- 2 State, the next well, you see the 8 percent density porosity in the bright red. This is the lower third of the lower Wolfcamp X-Y. As you move to the north, you see that bright red degrade and go away. And as you move further to the north up into Section 35, it's gone away even further. So both formations -- the sandy interval in both those formations degrade as you move to the north, north being A prime.

Q. So you get limey as you go north?

A. Correct.

Q. So for clarity purposes, your map is really a combination of the two, and you're saying there is a strong relationship between the quality of wells and the -- and your contour interval?

A. Absolutely. In our experience, yes.

EXAMINER JONES: We didn't let Mr. --

EXAMINER McMILLAN: I know. That's where we are right now because you're obviously going --

EXAMINER BROOKS: This is kind of like "Perry Mason." The lawyer is cross-examining the witness and turns around and starts cross-examining the investigators (laughter).

EXAMINER McMILLAN: Because it's your turn.

I think you absolutely have the right to rebuttal.

EXAMINER BROOKS: I agree.

MR. HALL: Both.

EXAMINER BROOKS: To make this orderly, I'd ask this gentleman to stand down, and ask him (indicating) to go take the witness stand, if we're going to continue.

EXAMINER McMILLAN: Okay. That's what we'll do.

EXAMINER BROOKS: Mr. Hall, did you get a chance to -- well, are you through?

MR. BRUCE: I am through. That's all I have.

EXAMINER BROOKS: Mr. Hall, did you get a chance to cross-examine this witness' rebuttal testimony?

MR. HALL: I did.

EXAMINER JONES: Oh. I am sorry. I thought you didn't.

MR. BRUCE: I have nothing further in these matters.

MR. HALL: Can I ask another question?

EXAMINER BROOKS: If you want to ask a follow-up, go ahead.

EXAMINER McMILLAN: That's what I expected.

CROSS-EXAMINATION

BY MR. HALL:

Q. I just want to ask what you did on page 4 of Exhibit B. You utilized Wolfcamp prospectivity to exaggerate the region in the south? Isn't that what just happened?

A. Am I supposed to answer?

Q. Yes. Sorry.

A. No. Well, on this map, it did, but that is not what happened, sir. I can -- the 45-foot number for that well in Section 1 is the Lower 3rd Bone Spring only. The contour map, unfortunately, does not -- is a -- is a -- is reflection of a previous mapping where I had kind of lumped all that together.

Q. All right.

A. So the 45 is the correct number for the Lower 3rd Bone Spring Sand target interval that we're talking about. The 45 is, you know, obviously thick enough. So what would happen would be -- we're still over 45 feet. You've got 50 up there on the one side. So the west half of 2 would all be over the 40 feet.

Q. Your cross section for your contour is page 7. So you're aggregating --

A. I'm sorry. The cross section or -- I thought we were talking about Map 4.

Q. We're talking about Exhibit B, page 7.

A. Correct.

Q. That's where you aggregated the Wolfcamp in the Bone?

A. A portion of it, yes, I did.

Q. But you did not do that for --

A. No, I did not. And, in fact, the reason I know -- I mean, when you brought that up, I thought did I -- the reason I know that is because the computer went in, and I said, How much over 8 percent between top of 3rd Bone Spring and top of the Wolfcamp X -- or the Wolfcamp, and the computer spit out that 45 number. The 45 number is correct. The contour does not reflect the 45, and it should. That's what I was trying to say.

Q. How about the rest of the contours that are shown on 4?

A. You can see that they all map.

Excuse me. I'm losing my voice.

You can see they all match the contour value. It was just that one where I moved the top of the Wolfcamp up at a previous -- a later interpretation from my original interpretation. I mean, I know exactly what I did. So basically the 45 is the correct number for the Lower 3rd Bone Spring.

Q. Thank you, Mr. Dilli.

CROSS-EXAMINATION

BY EXAMINER JONES:

Q. Mr. Dilli, in the northwest of 35, there is a 32 --

A. Are you on Map 4?

Q. I'm sorry. On page 4 --

A. Okay.

Q. -- there is a -- near your A prime is a 22, and then there is a 32 to the northwest of that?

A. Correct.

Q. But there's -- those contours look like they're the same number.

A. They are. They're both 20s.

Q. Both 20s.

A. And that's a regional kind of a thin.

Q. So the control for that 20 is not shown here?

A. I mean, that's what he was referring to. If this is all you had, you might contour it differently.

Q. Yeah. Okay. Thanks.

RECROSS EXAMINATION

BY EXAMINER McMILLAN:

Q. Okay. So there is -- to put it in simplistic form, the contours and their values don't match?

A. On that one well. On the well that --

Q. Okay. But -- all right. So that actually

could -- it could possibly affect the project areas?

A. It wouldn't change my thought process. Remember I said I wanted 20 feet? That well's got 45. It's got a 50-foot next to it and a 25. Excuse me. It wouldn't affect our decision at all.

RECROSS EXAMINATION

BY EXAMINER JONES:

Q. Does the pressure start rising into the 3rd Bone Spring?

A. Yeah. Our experience is certainly the Wolfcamp, a little bit higher in the X-Y, and a little bit higher in the 3rd. Yes, it's slightly overpressured.

Q. So there is no -- nobody talked here at all about variation pressures. I guess if you guys know about these, we never hear about them.

A. Again, from our experience, when you get into the Wolfcamp A, everybody knows it's like .65 or over .6, .7, one of the wells we've drilled. When you get in the Lower 3rd, in the X-Y, it's slightly overpressured, but it's not anything like the Wolfcamp, in our experience.

Q. Okay.

A. And we don't have to take any -- we never take -- mud up or special precautions. You just know

it's slightly overpressured.

Q. Okay. Thanks.

EXAMINER BROOKS: I think if you want to make the 5:30 train, you better run.

Anyone have anything further?

MR. HALL: We don't.

MR. BRUCE: I do not.

EXAMINER JONES: This business about changing the surface location, that doesn't require any --

EXAMINER BROOKS: I think they had a surface-use agreement.

EXAMINER JONES: And the costs are the same. You testified to that.

EXAMINER McMILLAN: Yeah, Marathon.

MR. BRUCE: I was going to make a closing argument, but with Mr. Hall's consent, if we can submit a short written closing.

MR. HALL: Sure.

MR. BRUCE: I would rather do that, get the heck out of here, not that I don't like you guys.

EXAMINER McMILLAN: Okay. Well, then, Cases --

EXAMINER JONES: I'll read them. Cases 15655, 15656, 15659 and 15660 will be taken under

advisement, and the docket is closed.

Thank you-all for coming.

(Case Numbers 15655, 15656, 15659 and 15660 conclude, 5:11 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.

MARY C. HANKINS, CCR, RPR
Certified Court Reporter
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2017
Paul Baca Professional Court Reporters