NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date APRIL 3, 1997 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Robert Bullock	Yates Petroleum	Artesia
William F. Carr	Campbell, Carr, Berge & Sheridan	Santa Fe
W. Thomas Kellahin	Kellahin & Kellahin	Santa Fe
Ernest L. Padilla	Lowe Burnett Ward Carroll	Artesia
Perry M. Farrell	Amoco	Houston
Mike Hayes	Yates Petroleum	Artesia
James Bruce	—	SF
Carl Brown	Fasken Oil & Ranch, Ltd	Midland, TX
DEXTER WHARTON	FASKEN	Midland
LOUIS LINT	FASKEN	Midland, Tx
Sally Kresnicka	Fasken	Midland, Tx
Robert C. Leibrock	Amerind	Midland
Ralph Lea	Amerind	Midland
Scott Hall	MILLER LAW FIRM	SF
Ralph Moore	Meurbourne Oil	Midland, TX
Bryan Montgomery	Meurbourne Oil	Tyler TX
KEITH WILLIAMS	"	MIDLAND, TX

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date APRIL 3, 1997 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Michael F Shepard	Montezuma Oil Co	Tyler TX

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 BASS ENTERPRISES PRODUCTION COMPANY TO DRILL AND SIMULTANEOUS DEDICATION, OR IN THE ALTERNATIVE, SIMULTANEOUS DEDICATION AND UNORTHODOX WELL LOCATION, EDDY COUNTY, NEW MEXICO	CASE NOS. 11,758
APPLICATION OF BASS ENTERPRISES PRODUCTION COMPANY AND SANTA FE ENERGY COMPANY FOR THE RESCISSION OF DIVISION ADMINISTRATIVE ORDER NO. NSL-3745, EDDY COUNTY, NEW MEXICO	and 11,713
	(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

April 3rd, 1997

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, April 3rd, 1997, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

April 3rd, 1997
Examiner Hearing
CASE NOS. 11,758 and 11,713 (Consolidated)

* * *

E X H I B I T S

Mewbourne	Identified	Admitted
Exhibit 1	18	35
Exhibit 2	58	64

* * *

A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
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FOR MEWBOURNE OIL COMPANY:

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By: WILLIAM F. CARR

FOR BASS ENTERPRISES PRODUCTION COMPANY:

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By: ERNEST L. CARROLL

FOR ARCO PERMIAN:

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P.O. Box 1056
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* * *

WHEREUPON, the following proceedings were had at 8:32 a.m.:

EXAMINER STOGNER: At this time I will call Case Number 11,758.

MR. RAND CARROLL: Application of Bass Enterprises Production Company to drill and simultaneous dedication, or in the alternative, simultaneous dedication and unorthodox well location, Eddy County, New Mexico.

EXAMINER STOGNER: At this time I'll call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan. I represent Mewbourne in this matter.

And at this point in time I have witnesses here, but I still have an exhibit that isn't here, and I wonder if it would be possible to take the unopposed Amerind case first so that the exhibits can arrive.

EXAMINER STOGNER: Okay. If there's no objections, then we will skip over the 11,758 and 11,713. At this time we will go to the Amerind case to allow Mr. Carr to have some time also, because he's representing Amoco.

(Thereupon, a recess was taken at 8:33 a.m.)

(The following proceedings had at 9:05 a.m.)

EXAMINER STOGNER: At this time I'll call Case

Number 11,758.

MR. RAND CARROLL: Application of Bass Enterprises Production Company to drill and simultaneous dedication, or in the alternative, simultaneous dedication and unorthodox well location, Eddy County, New Mexico.

MR. ERNEST CARROLL: Mr. Examiner, I'm Ernest Carroll of the Artesia law firm of Losee, Carson, Haas and Carroll, and I am here on behalf of the Applicant Bass.

Mr. Examiner, if you'll realize, this case has already been heard before Examiner Catanach. Therefore, I have no direct witnesses to put on today. I do have a couple of Bass representatives, depending on the case Mr. Carr puts on.

EXAMINER STOGNER: Mr. Carroll.

Mr. Carr?

MR. CARR: May it please the Examiner, I believe in this matter, the cases -- this case and Case 11,713 were called six weeks ago.

MR. ERNEST CARROLL: That's correct.

MR. CARR: They were consolidated --

MR. ERNEST CARROLL: -- and consolidated.

MR. CARR: -- at that time.

EXAMINER STOGNER: So I guess it's in order for us to call also 11,713?

MR. ERNEST CARROLL: I think so, Mr. Stogner.

MR. CARR: Yes, sir.

EXAMINER STOGNER: At this time I'll call Case Number 11,713.

MR. RAND CARROLL: Application of Bass Enterprises Production Company and Santa Fe Energy Company for the rescission of Division Administrative Order Number NSL-3745, Eddy County, New Mexico.

EXAMINER STOGNER: I assume, Mr. Carroll, that you're making an appearance in this case --

MR. ERNEST CARROLL: Yes, sir.

EXAMINER STOGNER: -- and all that you have stated earlier holds true for this one?

MR. ERNEST CARROLL: Yes, sir.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: And I have my appearance in those cases as well, I believe, Mr. Examiner.

And I also believe there may have been a motion filed in this case.

MR. BRUCE: Mr. Examiner, Jim Bruce representing ARCO Permian, specifically in Case 11,758. I was contacted by ARCO Permian late yesterday, and I faxed over a motion for continuance. I believe all the witnesses are here, and we have no desire to delay things further.

However, I think the matter should be continued after evidence is put on today so that ARCO has a chance to

consider this matter and put on evidence if necessary.

EXAMINER STOGNER: Okay. First of all, when was this matter heard by Mr. Catanach?

MR. ERNEST CARROLL: Approximately six weeks ago, Mr. Examiner, February --

EXAMINER STOGNER: -- 20th?

MR. ERNEST CARROLL: -- 20th, 1997.

Mr. Examiner, I would also at this time present the two certificates of mailing with respect to the matters Mr. Catanach asked us to give notice on. They're for both of the cases.

I would point out, Mr. Examiner, in response to Mr. Bruce's statement of request, that this case -- after we heard it on the 20th of February it was set for hearing at the -- It was set in March 20th, I believe. ARCO received notice of that, of that case setting.

Then I do not have it as an exhibit but I do have the return receipt card. When we got notice of the exact date, March 20th, we sent them notice of the March 20th date, and they received that on February 28th.

It would appear to me, and I think we would argue, that ARCO has had more than sufficient time to prepare for this case, and we would oppose any motion to continue it.

I would also state -- and if the Examiner wishes

to hear evidence on -- Mr. Wayne Bailey of Bass has had communications with ARCO concerning this matter. They are a latecomer to opposition.

And two days ago, a landman -- and I do not have that name, but Mr. Bailey can give it if the Court -- if the Examiner is even interested in it -- but ARCO indicated that the reason they were wanting to oppose this matter was because they were waiting on a log from a well that is drilling in Section 34, just to the west of the proration unit that Mewbourne has made their Application, 11,713.

So Bass has to argue because of those communications that this is just a matter for ARCO to delay things until they get a little more information from a log. And for those reasons we have to oppose it.

MR. CARR: May it please the Examiner, Mr. Carroll and I, Mr. Ernie Carroll and I, are in agreement on this issue.

Mewbourne proposed this well in December of last year. The matter has been presented various ways to this Division since that time. ARCO has had notice. We discussed with ARCO and with Bass earlier this week whether or not it was desirable to continue the case. Bass opposed. We have some information on the well we will present today.

But we believe we've reached a point where the

time is at hand to get this matter finally resolved, and we would oppose any further continuance of the hearing.

EXAMINER STOGNER: Mr. Bruce?

MR. BRUCE: Mr. Examiner, my reasons are set forth in a letter. The notice letter that Mr. Carroll has submitted doesn't give a specific hearing date. Furthermore, the application submitted by Bass for simultaneous dedication doesn't give a specific well location. I think that's defective under Division rules and procedures.

MR. ERNEST CARROLL: Mr. Examiner, I will -- I agree with Mr. -- Gosh, I'm sorry.

EXAMINER STOGNER: Bruce.

MR. BRUCE: Bruce.

MR. ERNEST CARROLL: -- Bruce, that the letter that is this exhibit, but as I stated, there was an additional letter which I have the return receipt card, which advised them of the March 20th date which this thing was continued from last, and that letter was received February 28th, 1997, almost -- Well, it was 20 days prior to the hearing that they were advised by us, return receipt, that that hearing would go on.

EXAMINER STOGNER: How many letters are we talking about?

MR. ERNEST CARROLL: Two different notice

letters.

EXAMINER STOGNER: Two different notice letters, okay.

MR. ERNEST CARROLL: Yes, there's the notice letter that we prepared for exhibit. I had already left the office yesterday when Mr. Bruce entered his appearance, so I did not have -- I have the return receipt card here and a copy of the letter, but I did not make an exhibit of it. And Mr. Stogner, if you'd like, I can certainly furnish that afterwards.

EXAMINER STOGNER: Yes, I'd like it. But in the meantime, could you bring that forward?

MR. ERNEST CARROLL: Okay, let me find it here sir.

EXAMINER STOGNER: Mr. Bruce, do you want to -- Why don't you come on up here, Mr. Bruce, and sit in that chair over there so you'll be a little bit closer. You won't be considered a witness. It might help the transcriber a little bit.

I'm assuming that you're going to be saying some additional items anyway, so.

MR. BRUCE: I don't have anything further than that, Mr. Examiner.

EXAMINER STOGNER: Well, let's put it this way: I'm going to be asking you some stuff.

MR. ERNEST CARROLL: This is the letter --

MR. BRUCE: And I probably don't know.

MR. ERNEST CARROLL: -- dated February 26th, notifying them of the March 20th date and return receipt cards. That letter went to Art. That's just a representative -- and here's to -- I'm sorry, I should have pointed that out.

EXAMINER STOGNER: Okay.

MR. ERNEST CARROLL: And I tore it off right there.

MR. RAND CARROLL: And what did they receive?

MR. ERNEST CARROLL: That's the Application notice and the Application.

EXAMINER STOGNER: Mr. Bruce, on number 3, item number 3 in your letter of April 2nd, which was yesterday, that ARCO had insufficient time to prepare for the hearing, but they received notice -- at least something was going on in this area -- on March 10th.

MR. BRUCE: Mr. Examiner, I am just going on what ARCO told me. As you know, ARCO is usually represented by Mr. Carr. There's a conflict in this. I was contacted by Dave Pearcy at ARCO approximately noon yesterday. Because of preparation for another hearing today, I only had a brief phone conversation with him. He said they needed more time to prepare. That's what that is based on.

As I said, I don't object to the presentation of witnesses here today.

EXAMINER STOGNER: Mr. Carr, do you have -- Are you going to present some witnesses?

MR. CARR: Mr. Stogner, I'm prepared to present two witnesses, very brief presentations.

EXAMINER STOGNER: Okay.

MR. CARR: If -- And we would prefer to get this resolved today. I think the worst thing that could happen to us is to continue to round-robin this where we make a presentation today and then we all come back in a month and do ARCO. I think we really need to decide if we're going to do it today and wrap it up or if we're going to come back and wrap it up at one specific time. We're prepared to wrap it up today, if that's what the Division desires we do, and we think we can. And we think ARCO has that time.

And that's the posture we're in. I think it's more of a question of not committing everybody to, you know, another hearing. If we're going to have another hearing, then we ought to all come back at that time.

You need to know that there is a well offsetting the acreage at issue, the well was logged, I believe, on Tuesday, although I'm not sure I know exactly the date. There is information becoming available. And we can present it as it is -- I mean drill stem test information

from yesterday, the log the day before -- or we can come back after we've had a chance to analyze the data.

We do feel like, though, we're in a position to go forward with the hearing if you desire.

MR. ERNEST CARROLL: Mr. Stogner, I echo the same sentiments Mr. Carr made.

I would say one thing on the record, on behalf of Mr. Bruce. He did get into it extremely late, and I did not have a chance to communicate with him. I only got word of his entry after I had -- well, it was late last night, my secretary tracked me down. And so I didn't have an opportunity --

MR. BRUCE: And --

MR. ERNEST CARROLL: -- and Jim is -- and my comments --

MR. BRUCE: -- I didn't have an opportunity to even call Mr. Call because of the press of time, Mr. Examiner.

MR. ERNEST CARROLL: Mr. Bruce is -- I'm sure he was caught off guard by my remarks. He didn't know what I was going to say because we'd had no opportunity. And while I am not begging any mercy for ARCO, I think Mr. Bruce deserves a little.

MR. CARR: I would not beg mercy for ARCO in this circumstance either, as their usual attorney, because Mr.

Bruce did agree to step in yesterday when a conflict developed, and he is here on short notice.

EXAMINER STOGNER: I'm sure your remarks don't surprise many people whenever you do talk, Mr. Carroll. I love the way you put that.

I feel like I just walked into a hornet's nest here, and please forgive me. Let me clarify something.

How come ARCO was eliminated or not notified, or some of the other parties -- why was there additional notification needed?

MR. ERNEST CARROLL: I can answer that, Mr. Stogner.

ARCO was originally notified of the Case 11,713. In fact, Bass even contacted them to get them to oppose with them and put a joint opposition together.

ARCO at that time advised Bass they weren't interested in opposing Mewbourne because they -- They just had a policy with what we were told, Mr. Bailey was told. We were then very taken back by surprise when it -- And frankly, there were conversations between George Hillis and ARCO some three or four weeks ago about this, and we were taken quite by surprise that all of a sudden ARCO changed its position, indicated they would come in and oppose our Application.

And then we learned that they were partners in

the well in Section 34, and I guess somehow they got involved in that well and that changed their whole position.

But my position is, they have had adequate time to prepare a case. I -- Quite frankly, the conversation between the ARCO people and Mr. Bailey two days ago was to the effect that, you know, we're waiting on the results of that well, and if it's a bad well we don't want to do anything.

So it really is, I think, a poor use of the objection process by ARCO, and that's why we're so steadfast in opposing any further delay for these matters.

EXAMINER STOGNER: Mr. Bruce, in -- I haven't sufficient time this morning because when I got in this letter was on my desk and I've been talking to Mr. Rand Carroll.

I'm going to deny your motion to continue at this time. And we'll note your appearance here today, and of course you are a party of record now in these instances.

So with that, Mr. Carr --

MR. CARR: Yes, sir.

EXAMINER STOGNER: -- you may present your witnesses.

MR. CARR: At this time, Mr. Examiner, I would ask that two individuals be sworn, Ralph Moore and Brian

Montgomery.

(Thereupon, the witnesses were sworn.)

RALPH P. MOORE, JR.,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your name for the record, please?

A. My name is Ralph Moore.

Q. Where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. Mewbourne Oil Company.

Q. What is your position with Mewbourne?

A. I'm exploration manager, but I'm functioning as a geologist on this particular prospect.

Q. Have you previously testified before this Division?

A. I have.

Q. At the time of that testimony, were your credentials as an expert witness in petroleum geology accepted and made a matter of record?

A. Yes.

Q. Are you familiar with the Applications filed in each of these consolidated cases by Bass and Santa Fe?

A. I am.

Q. Have you made a study of the area which is the subject of these consolidated hearings?

A. I have.

Q. And are you prepared to share the results of that study with the Examiner?

A. I am.

MR. CARR: Are the witness's qualifications acceptable?

EXAMINER STOGNER: Any objections?

MR. ERNEST CARROLL: No objections.

May I ask, do you have a set of exhibits that you're going to be using?

MR. CARR: We're going to -- Our exhibits we're going to work through one at a time. We're still assembling part also --

MR. ERNEST CARROLL: Okay.

MR. CARR: -- because we have well data that we've only had for an hour.

Mr. Moore's first exhibit is simply the plat which was attached to the administrative application filed in December.

Q. (By Mr. Carr) Mr. Moore, would you briefly summarize what Mewbourne seeks in this hearing?

A. Mewbourne seeks an order which denies the request

of Bass and Santa Fe Energy to rescind Administrative Order NSL-3745 and further seeks an order denying the request of Bass for an unorthodox location and simultaneous well in the east half of Section 2, Township 19 South, 28 East.

Q. In essence, what we're doing is asking the Division to let the administrative order we obtained last December stand?

A. That's correct.

Q. Could you identify what has been marked Mewbourne Exhibit Number 1?

A. Yes, this is a map of the lower Morrow gross orange sand. Orange sand, in our shop, is an internal classification. It's usually one of the first sands below the top of the lower Morrow.

The map is contoured on ten feet gross, and --

Q. This is a gross isopach?

A. This is a gross isopach. And wells that have produced from this particular orange sand are colored in orange.

Q. And this is the same map that was submitted in --

A. This is the same map that was submitted earlier.

Q. With the administrative application?

A. With the administrative application.

Q. And this map basically shows a fairway in the Morrow; is that correct?

A. Yes, we use a gross sand isopach in here, picking what we consider to be potential reservoir-quality areas. It is nothing more than a fairway predictor. As everybody knows, the Morrow is quite variable. And we don't do too much in terms of net sand at the prospect level because the gross section is difficult enough to predict. And there's usually not a clearcut, in my opinion, relationship between how much gross and net you will have.

Q. Now, what we have indicated on this exhibit is the proposed Mewbourne spacing unit in the west half of the section; is that correct?

A. That's correct.

Q. Where would the nearest standard location be?

A. The nearest standard location would be north, 1650 from the south and 1980 from the east.

Q. And that nearest location is indicated on this exhibit by an X; is that correct?

A. That's correct.

Q. So we're unorthodox under these pool rules, because the location is farther to the south on the standup unit than allowed?

A. That's correct.

Q. What is the Bass spacing unit that we're discussing in these proceedings?

A. It's a 320-acre tract, being the east half of

Section 2.

Q. Okay. There is a well on that tract?

A. There is a producing well on that tract in Unit 2H.

Q. Is the proposed location for the Mewbourne Scanlon Draw 35 State Well Number 1 indicated on this exhibit?

A. It is.

Q. And that is 660 from the south, 1980 from the west line?

A. That's correct.

Q. What basically does this exhibit show about the proposed Scanlon location?

A. The proposed Scanlon location, we anticipate, will be in the center of a depositional fairway, as indicated by the gross section.

The trend throughout this area is a depositional pattern which is northwest to southeast. And you can see, if you look to the north, the wells in 26 and 27, the relationship between the well in 35F and 2H. And further the south I would point out 10B and 11I, I believe. These all have a northwest-southeast depositional pattern which is consistent with the industry's interpretation.

However, as I stated earlier, this is a very variable gross section and an even more variable net

section. Very difficult to predict.

Q. At the previous hearing on these Applications, there was testimony concerning whether or not the trend of this fairway was consistent with the standard mapping in the area. Are you aware of that testimony?

A. Yes.

Q. I would like you to refer to a set of exhibits that were presented by Bass in the earlier hearing.

A. Okay.

Q. I would first like to direct your attention to what was introduced as Bass Exhibit Number 10. Are you familiar with this?

A. Yes.

Q. Have you reviewed the testimony presented concerning --

A. I have.

Q. -- this exhibit?

Basically, can you explain to Mr. Stogner what this exhibit is designed to show?

A. Well, I believe, after looking at the exhibit and reading the testimony, this is a copy of the map that I've been talking about, our gross orange Morrow sand, with the Bass interpretation of the same data superimposed on top of it.

Unfortunately, these are black-and-white copies.

I would point ours out as being similar to the large map that I previously discussed, and there's a bit of a north-to-south component through Section 35 and 2. They would -- That would be the Bass interpretation, as I understand it.

Q. If we look just at this exhibit, and we look at the information available, say, in December of last year, how does the trend you have mapped compare with other trends, Morrow trends, in the immediate area?

A. The trend that I have mapped, I believe, is consistent with the industry interpretation of the area. I think, as I pointed out, we have -- or as Bass had mentioned, there are three pods in here. I would disagree that they trend east-west. I believe the trend is northwest-southeast, as I've already discussed.

In addition to that, if we look at the Bass interpretation and the Mewbourne interpretation up in 27 and 26, there's somewhat of a consistency there of northwest to southeast. If we look down to the south, it's a little different but there is basically -- and I'm talking about in Section 10 and Section 11, we have a northwest-to-southeast depositional pattern which is consistent with industry and our regional mapping.

If you look in the north half of Section 11 and the south half of Section 3, you'll see a depositional northwest-southeast depositional pattern that Bass has

interpreted, which is nearly parallel to our interpretation in 34 and 35.

The only information on the Bass that I think seems inconsistent is the northwest -- I'm sorry, north-south depositional trend connecting 26, 35 and 2. I think this is in error and inconsistent with the industry standards.

The well in 35F was originally drilled as a straight hole. It was on a previous Bass exhibit. It was nonproductive. We interpreted this well to have three feet of net sand greater than 7 -- about 7 percent, over 8 feet of gross.

Anadarko offset this well with a directional hole to the southeast and encountered a substantially -- south about 120 feet, and encountered a significantly different zone, which produced about a half BCF and looks very productive on the log and, it's my understanding, had some good flow rates initially.

And what this is, I'm just trying to show how quickly this varies from well to well, and here we have a significant variation between 120 feet.

Q. Now, Mr. Moore, before we go on with that --

A. Okay.

Q. -- on Exhibit 10 you have mapped the fairway in which you're proposing to drill a well --

A. That's correct.
Q. -- trending northwest-southwest --
A. That's correct.
Q. -- in the center of this exhibit?
A. That's correct.
Q. North of you, Bass has mapped a fairway moving generally northwest-southeast?
A. That's correct.
Q. South of you, Bass has a fairway trending northwest-southeast?
A. That's correct.
Q. Yet over the subject area Bass has mapped the deposition trending from north to south?
A. That's what it appears to me.
Q. If -- Mewbourne has recently drilled and is completing a well in this area, is it not?
A. Yes.
Q. Where is that well located?
A. That well is located in 340.
Q. Which would put it --
A. I believe it's 660 off the south line, and I believe it's 1650 from the east line, but I'm not sure of that particular distance.
Q. It puts it in the center of the orange sand as mapped on your original exhibit?

A. That's correct.

Q. If we look at Exhibit 10 and look at the Bass contours, that location would be outside the reservoir, since they've mapped it north-south through that area; is that not right?

A. That's correct.

Q. What information do you have on that well in 34 at this time?

A. The well encountered some orange sand, and it drill stem tested last night at 8 million cubic feet of gas a day. It has excellent pressures. We're still awaiting the data, but it has clearly hit the northwest-southeast trend that I was working on.

And I believe it has compromised the Bass interpretation, because on the Bass interpretation anything west of the west half of 35, which obviously would include Section 34, would have no sand. And that particular sand has tested 8 million a day.

Q. And that well --

A. We believe, however, that there's such variability in here that our maps have been modified -- will have to be modified to accommodate approximately 12 feet of section.

Q. A well that produces -- or that has 10 million a day at the location of the new well in 34, is that

inconsistent with the Bass interpretation?

A. Well, it tested 8 million and, yes, it is -- It's inconsistent with the Bass interpretation.

Q. Does it confirm the interpretation you presented with the administrative application?

A. We believe it does, with some modification.

Q. Let's take a look, in the exhibits that I've handed you from the previous hearing -- We've just looked at Exhibit 10.

A. Yes.

Q. Let's go to an exhibit which is the gross isopach map that Bass presented on the Palmillo prospect on top of the lower Morrow, the Barnett marker. Do you have that in front of you?

A. I have that in front of me.

Q. What does the new well information -- or how does that fit with this exhibit?

A. Well, I think that if you look in the southeast quarter of 34, the contouring there by Bass would suggest some sort of northwest-to-southeast depositional pattern.

I believe we've confirmed that particular interpretation of the depositional pattern, and we used the same mapping technique. I didn't see the north-south trend that they have in the east half of 35.

But I believe this particular exhibit is probably

-- we've confirmed this particular exhibit, is that yes, there is -- We only logged it down just below the base of the orange sand, so I don't have a lower point that I could plug in here. And as a matter of fact, I have seen the logs but I don't have a copy with me.

We use this technique, and we think that Bass, in using this technique themselves, forecasted the potential of a good well in the southeast quarter of 34. We don't agree with, necessarily, the rest of the interpretation.

Q. But your well confirms that portion of this interpretation?

A. That's correct, I believe that this --

Q. All right. Let's go to the next exhibit, Bass Exhibit 14. What is this?

A. Well, they're a little out of order. I would prefer to go to Exhibit -- I would prefer to go to Exhibit 15, which should be right behind --

Q. All right, go to the next exhibit. This is a Bass Exhibit 15, introduced February 20th?

A. That's correct.

Q. What is this, now?

A. This, I believe, is the same interval that we're looking at, what we call the orange sand; it's called the lower Morrow sand in here.

They have a northwest-to-southeast depositional

pattern through Section 26, 35, and down into 2, and they have a northwest-southeast depositional pattern through 3 and 2, and they would show no lower Morrow deposition anywhere in 34.

We believe that the well, as I've just mentioned, having -- I believe it has 12 feet -- and testing 8 million a day, compromises this map --

Q. All right.

A. -- in the local area of 34 and 35.

Q. All right, let's go to the next exhibit, and which one do you want to go to next?

A. I want to go to the one you previously mentioned, which was --

Q. -- which was Number 14, the net clean sand?

A. Yes. This is the depositional fairway, as well as the clean sand, where potential reservoir rock lies.

And I made a mistake back here, I'm sorry, on Exhibit 15. These have changed a little bit since I first put them together. That's actually a net isopach of the lower Morrow sand with the porosity influence of it and indicating the height in relationship to the porosity where we predict a reservoir that we would encounter.

14 is probably the one I needed to talk to earlier, and you can see this is consistent. I have -- On this particular map I've drawn a dot in 340, where our

location is approximately, and you can see this map would indicate we would drill a dry hole with no sand for this particular zone. And I think that this compromises the Bass interpretation on a local level.

Q. Let's go to Exhibit Number 11.

A. Exhibit Number 11 is a structure map of the lower Morrow. It shows southwest -- northwest-to-southeast dip trend to it. Bass has used this particular map in conjunction with the fault in Section 2 and Section 1, and down into Section 3, to support their case.

I would point out this is approximately a 36-square-mile area. It happens to be the only two faults on the map. We think that the -- and I'll get into it in a little while -- that these permeability barriers that Bass is seeing in their -- through their testimony and we've seen throughout our effort, represent stratigraphic changes, not necessarily faulting.

Q. Mr. Moore, the data that you have obtained in the last day and a half on the well you are completing in 34, does -- you testified that that data is inconsistent with the presentation made here by Bass in February of this year; is that right?

A. That's correct.

Q. What does that data do to your interpretation that you submitted with your original administrative

application?

A. Well, as I said in my original comments, is that the Morrow is a very, very treacherous thing to map on a consistent basis. It has great variabilities within the sands. By its very depositional trends, there's good variability.

We think that while we didn't encounter a big, thick Morrow section, lower Morrow section, orange sand, objective, at our location, the initial results from drill stem tests of 8 million a day and the pressure data that I've been told about confirms that we are, in fact, on the western edge, locally, as I have it drawn here, of a northwest-southeast-trending pod. And we believe that by drilling our location in 35N, we will be in the -- It's our interpretation that we will be in the same pod.

Q. Mr. Moore, if Mewbourne was required to drill a well in 35 at a standard location, what impact would that have on the Mewbourne plan?

A. Well, as we -- as I said earlier, is that I -- because of the great variability in the net versus gross sand sometimes, we want to get in the thickest part of the channel, of the sand.

And yes, you can have a -- you can have a good well with less than 28 feet. But the risk of that happening becomes very high. We want to hit the highest

point of the -- thickest point of the sand, and it needs to be drilled at the location we've proposed.

Q. In your opinion, is that location the best point to efficiently produce the Morrow reserves under the dedicated acreage?

A. That's correct.

Q. You've generally described the Morrow in this area as being channel sands and a number of separate pods or reservoirs, when you start mapping or looking at this on a net basis.

You then testified about the experience with the well in Section 35, unit F.

A. Right.

Q. Let me hand you copies of a cross-section that was presented by Bass in the February hearing. Would you initially just identify what that is?

A. This is the cross-section for the Palmillo prospect in Eddy County, the lower Morrow cross-section, and --

Q. I'd direct your attention to the two log sections on the left side of the exhibit. What well are those logs from?

A. These particular logs are from the same surface location. The well has the same name. The original straight-hole location was drilled on the left side.

And I'd like you to look at the lower Morrow, and you can see a gross sand section developed down approximately -- 10, 20, 30, 40, 50 -- about 60 feet, you'll see a gamma-ray response out to the left. This, in our opinion, is the orange sand. But it virtually has one foot of potential reservoir-quality rock on this particular exhibit, we agree with that.

The well to the right of that is the sidetrack hole, and you can see Bass has outlined that particular orange sand, you can see the gas effect associated with it. And it's just a very much better, high-quality sand.

That well produced, I believe, about a half a BCF from this well. It was commingled -- or it was -- it did produce from the upper Morrow sand, but let's just talk about this orange sand for our purposes right now.

You can see that within 128 feet -- Well, when let me be specific. The bottomhole location for the sidetrack is 128.5 feet south and 60.5 feet east. I'd like to point out that the largest distance is to the south, not to the east, which means on my map we would be moving towards better quality rock, and I believe Bass's interpretation would require better -- a well drilled directly to the east to encounter that.

But anyway, they move south, towards our location, in the middle of a major orange sand fairway.

And let me say again, this is a fairway, and it could be quite variable within it.

Then the second well on the -- third well on the cross-section is the Bass Turkey Track 2 State Com Number 1. You can see the orange sand is perforated in that well. It's in the same stratigraphic interval as the sidetracked Anadarko well.

However, Bass has a fault to the west of this well. I don't believe a fault is necessary for the permeability barrier that they've encountered, in their testimony, that I'm aware of.

If you just look at simple relationship between the two Anadarko wells, straight hole and side hole, 128 feet, you've got a drastic change in reservoir-quality rock. It's been my experience and Mewbourne's experience in developing Morrow prospects and exploring for the Morrow, you can change reservoirs very quickly. They're in the same stratigraphic interval, but there's great stratigraphic variability.

And I would point out again, if you go back to the Bass Exhibit 10 with the location that we've just drilled in Section 34, you know, every time Morrow wells are drilled, everybody's maps change. Our maps are not necessarily better than theirs on a regional basis. But we feel on a local basis, 8 million a day confirms that

location. And it's better explained by a change in the reservoir as well as the gross sand.

Q. Mr. Moore, you've reviewed the testimony presented in February by Bass, have you not?

A. Uh-huh, yes.

Q. You've made your own study of this reservoir; is that right?

A. Yes.

Q. You're the geologist who recommended the well be drilled in 34, are you not?

A. I am.

Q. The results on that well, in your opinion, you've testified, confirm your interpretation; is that right?

A. They do, yes, with some modification. We didn't get quite as thick as that one we had. But what we were trying to do was predict the fairway of the reservoir and the trend, and we think that's been confirmed.

Q. Do you see any geological evidence, based on your study and the information you've reviewed, that would support the existence of a fault traversing Section 2 as Bass suggests?

A. No.

Q. Was Exhibit 1 prepared by you?

A. Yes.

MR. CARR: At this time I would move the

admission of Mewbourne Exhibit 1.

EXAMINER STOGNER: Any objection?

MR. ERNEST CARROLL: No.

EXAMINER STOGNER: Exhibit Number 1 will be admitted into evidence.

MR. CARR: That concludes my direct examination of Mr. Moore.

EXAMINER STOGNER: Thank you, Mr. Carr.

Mr. Carroll?

CROSS-EXAMINATION

BY MR. ERNEST CARROLL:

Q. Mr. Moore --

A. Yes.

Q. -- the new well that is over in Section 35, I believe you -- What is the name of that well?

A. Well, let me correct you. The well is in 34.

Q. 34, excuse me, I --

A. I believe the well is the Scanlon Draw 34 Federal or State Number 1, I'm not sure of that.

Q. Is that a Mewbourne-operated well?

A. That's correct.

Q. Who are your partners in that well?

A. Well, the major partners would be ARCO and Marathon, and then there's a list of smaller people.

Q. I'm not -- The major suits me, thank you, Mr.

Moore.

The -- You said that there was a drill stem test that occurred in that well last night?

A. Yes.

Q. Okay. This well was previously logged prior to the drill stem testing; is that correct?

A. That's correct.

Q. When was it logged?

A. Let's see. I believe I reviewed the logs on Tuesday.

Q. Tuesday of this week?

A. Tuesday of this week.

Q. All right. You then, I suppose, picked the interval for testing from those logs; is that correct?

A. That's correct.

Q. What was the interval -- the footage interval that you tested?

A. I cannot tell you that directly, because I left to come up here prior to that decision to be made. I can tell you that the orange sand -- do you know the -- It was in the orange sand.

Q. Did you test any others, such as the middle?

A. We looked at the middle Morrow on RFTs. And since I've been on the road out here I haven't looked at the data directly, but I understand they had some pressure,

and it looked encouraging.

Q. What was the length of the test, the flow test that you got the 8 million from?

A. The length of the flow test, the first flow test period, was 15 minutes.

Would you excuse me just a second? I believe I can get some additional notes that might help us.

The initial flow period was for 15 minutes. I can give you the numbers. The initial hydrostatic was 5399 pounds.

Q. All right.

A. There is an initial flow period of 15 minutes. We were immediately to the bottom of the bucket on the surface. And within -- at the end of that period, that we had 1500 pounds surface pressure. The rate was 2.2 million a day.

Now, please remember, I'm getting this third-hand; I'm not looking at a chart.

Q. I understand.

A. The initial flow pressures during the 15-minute period, 1767 to 2482. It is my understanding that the well was shut in for 60 minutes. It attained a pressure of 4401, which was described to me as instantaneous, in a straight line, indicating excellent permeability, which is consistent with these good lower Morrow sands.

The second flow period was for 33 minutes. The pressures were 1767 to 2704. I was told 8.4 million a day. However, we shut the tool in at the end of 33 minutes, because we had a hole in the drill pipe, and mud was coming to the surface.

We pulled -- Let me finish.

The final flow period of 33 minutes, I believe I said, 1767 to 2704. The final shut-in -- it was shut in for four hours -- it also was equal to the initial shut-in of 4401, and it's been described to me as instantaneous, indicating further good reservoir.

Now, our drill stem test was compromised because of a hole in the drill pipe, and this is the only information I have, so it was a very short drill stem test, but in a very permeable orange sand.

Q. Did you calculate what the porosity was for the interval that you tested prior to running your drill stem test?

A. Yes, I believe -- I'm working off memory now. I believe we were talking about 8 percent, plus or minus.

Q. You don't have the logs with you, do you?

A. I do not have the logs with me.

Q. How many feet did you calculate for that 8-percent porosity?

A. I'll tell you what, I'm going to let Mr.

Montgomery, who's a reservoir engineer, answer that.

Q. Does he have those numbers, then, to your knowledge?

A. I believe he may have those numbers.

Q. All right.

A. I might also add, on the -- while I don't remember the exact porosity numbers and the feet, I can tell you that the water saturations for this zone, I believe, were approximately, depending on the R_w used -- I believe we used .07 -- were about 70 to 100 percent.

We were a bit surprised that it did this. But this is consistent with some of the other wells in the area having high water saturation.

Q. All right.

A. And I might point out specifically, the well in 3F looks very wet in the lower Morrow. It also tested well. Didn't last very long, but it tested well.

Q. Now, Mr. Moore, with respect to the reported pressure of this well that you got after shut in, 4401, that's very close to virgin pressure, is it not?

A. I believe it is. Let me defer any additional reservoir questions to Mr. Montgomery, under his testimony. He's more qualified to discuss them than me.

Q. Now, Mr. Moore, you indicated that you thought -- well, with respect to your Exhibit 1, that this depicted a

northwest-southeast-trending depositional trend?

A. That's correct.

Q. Now, just so that I fully understand the -- In looking at your Exhibit 1, you have the 40-foot interval colored in kind of a red. The next step down, the 30 feet, is colored in orange. Now, that would be the main body of the channel that you're showing; is that correct?

A. That would be the fairway of the gross sand potential. I promise you, there's going to be great variation within those. This is a fairway.

I think that -- we -- We're hoping for 40 feet of sand at our particular location, but I don't really know how much sand is going to be there. I just know it should be the thickest part, and I expect this to be very discontinuous in its reservoir nature.

Q. Now -- And I don't remember if I asked you or you made a statement in your testimony that you thought you had 12 feet --

A. That's correct.

Q. -- in the well in Section 34?

A. That's correct.

Q. Now, is that gross sand?

A. That would be -- My number on this map would now be a 12.

Q. Your number on the map --

A. Yes.

Q. -- would now be a 12?

A. Yes, if I put this location in Section N, where we drilled it --

Q. All right.

A. -- I will have to change this map, which further confirms the variability of the reservoir, to 12.

Q. But -- And what I want to fully understand the 12, the number that you testified to, that is a gross sand?

A. That's what we call our gross sand.

Q. Gross sand, all right.

In the group of exhibits that you were testifying to which have been previously introduced by Bass --

A. Yes.

MR. ERNEST CARROLL: Mr. Carr, I want to make sure that -- The second page did not have an exhibit number. I have looked through my exhibits, and I want to make sure you agree with me. That is half of Exhibit 12, from what I saw.

MR. CARR: That's --

Q. (By Mr. Ernest Carroll) There were some logs that showed the lower Morrow on the Barnett marker; is that correct?

A. That is correct.

MR. ERNEST CARROLL: All right. So, Mr.

Examiner, you might want to note that on the second page of this group of exhibits that were handed out, that is part of Exhibit 12 in the original Bass exhibits.

Q. (By Mr. Ernest Carroll) Now, in looking at -- Do you have that exhibit with -- out there in front of you, that page from 12?

A. From Exhibit 12?

Q. Well, it's the second page in the group. It is the gross isopach --

A. Show me what it looks like.

Q. Okay, the gross isopach map, top of the lower Morrow Barnett marker. You may have yours shuffled around somewhat. Do you have it?

A. I've ended up with an awful lot of maps, but not the one I need. Excuse me a minute. I believe this is it?

Q. Yes.

A. Okay?

Q. All right. Now, there is a notation in handwriting that is -- points to -- has an arrow that points down to what appears to be some nosing that would be going through up -- starting in the lower southwest corner of Section 35 into Section 34; is that correct?

A. Well, I wouldn't describe it as nosing. I would describe it as a re-entry where a Morrow potential sand might be deposited.

I would describe the nosing a little bit to the north. That's a re-entrant much like Bass's interpreted re-entrant where that arrow is in the north half of 35.

Q. Well, and I apologize for using the nosing.

A. Certainly.

Q. I was looking at it in reverse.

A. Okay.

Q. Now, is that your handwriting that --

A. That was my handwriting. I was reviewing some of these exhibits. And what that says, it says "channel fairway". That's what my intention is, "channel fairway".

Q. All right. And you will agree with me that your Section 34 well is in that fairway that is depicted on this map, is it not?

A. It's my opinion, and the southern boundaries -- and I'm talking about this, if we follow the 160 around through the well in 34G which has "166" written on it --

Q. Yes.

A. -- and we swing that thing south, I believe my location will be very near that line, right on the edge.

Q. Now, I'm sorry, I didn't follow which line you were talking about.

A. Okay.

Q. Would it be very close -- it would be --

A. Do you see the well in 34G?

Q. Yes.

A. It has a number "166" on it.

Q. That's correct.

A. The contour to the north of it is contour 160.

Q. That's correct.

A. If we follow that contour around to the southwest --

Q. All right.

A. -- I believe our location would be very close to that contour which is a part of this, and it's highly subjective in the south half of 34, but it confirms this -- I mean, it's a channel fairway coming through there. The exact southwest edge of it is a little bit unknown, as you can see from the contours.

Q. Now, in your examination of the previous testimony that was rendered by the Bass people, did you give any -- You've made the statements that you do not feel there is any evidence of faulting.

Did you give any consideration to the pressures that were testified to, or is that something that you are leaving to the other --

A. Well, I'll leave it to Mr. Montgomery, but I can make a general statement.

We believe the pressure data, when you look at it, you can't tell whether you're looking at a fault or a

permeability barrier that is stratigraphic in nature. And we believe a stratigraphic barrier would be more consistent with the depositional pattern associated with the Morrow in here, in its great variability, than a fault.

Q. Well then, are you saying that the Bass well in the west half of -- excuse me, the east half of Section 2, then, is in a different, isolated stratigraphic pod from the rest of Section 2 or the wells that -- the other wells that have been drilled out here?

A. I believe that it is in the same stratigraphic unit. It is an orange sand. But much like we looked in the cross-section to the west, or some direction, there's a reservoir deterioration.

And yes, it would not be in the -- It would be in a unique reservoir pod.

Q. Did you consider the fact that the well that was drilled over in Section 1 had a very rapid depletion --

A. Yes.

Q. -- once it was put on line?

A. Yes.

Q. How do you explain that, if you have a rapid depletion then?

A. Might I call your attention to the Anadarko well?

Q. Which Anadarko well?

A. The Anadarko well on your cross- -- in the Bass

cross-section in 35 F.

Q. You're talking about up in Section --

A. Right.

Q. -- 35.

A. There's a drastic -- The well to the south, the sidetrack well, made about a half a BCF, I believe, from this zone. The well to the north has got no sand, reservoir-quality sand, in it. It produced very little.

Q. Did you study to see what pressures that both of those wells came on at initially?

A. I don't have that information available to me.

But there appears to be on the Bass interpretation the answer -- the relationship between the straight-hole original Anadarko well, and the sidetrack well. The answer is reservoir variability, stratigraphic change. There's no faulting between those wells that I can see.

And we think it's easier to carry that stratigraphic separation down to the Bass well in Section 2, in the east half, to explain any pressure anomalies, or any other ones.

Q. All right. Bass in its presentation, of course, on some of its map, it shows a number of the wells down in Section 12?

A. That's correct.

Q. During that testimony, there was -- it was testified that there was water updip in the northeast quarter of Section 12, and then the pressures -- and we contrasted that to the well south of that.

Have you determined why or what the explanation is of why you find water updip, gas down?

A. Yes. Now, I can't talk specifically for those wells, but I can tell you stratigraphic barriers and reservoir changes that are stratigraphic in nature will produce the same occurrence. And we can't tell whether they're faulting or stratigraphic in nature.

And the Morrow would be more easily -- consistently explained through depositional variations of stratigraphic inconsistency, as opposed to faulting.

Q. Have you looked at any of the seismic data that would run through, in particular, the areas of Section 2 that we're concerned with?

A. I haven't looked at it in Section 2. But we have followed with great interest Amoco's and ARCO's seismic exploration of the Morrow sand in Eddy County, and I can report to you that it's been a disaster.

They have -- And Amoco, I've been told by their landman, is not participating in that anymore, because they have found seismic to be an ineffective tool in exploring for the Morrow.

Q. Did you review the testimony of the Bass witnesses concerning the use of seismic in helping pick the fault that they show on their maps.

A. I looked at it. I can't say that I'm an expert at it.

Q. All right. Did you find anything in particular wrong with the statements, or any confirmation that Bass had problems with the seismic that you are alluding to, that Amoco has been telling you about?

A. I don't know whether Bass has looked at the Amoco/ARCO seismic shoot.

This particular seismic that's made reference to in here, I believe the testimony talked about it being reviewed on a QC nature; is that correct?

Q. I think so.

A. And QC is when you go in and kind of glance at it, but you don't work it, as far as I understand would define QC. And if it wasn't -- If it was more than that, I need to be -- I will stand corrected.

Q. Now, you will agree with me that Amoco was using the seismic to find channels, these Morrow channels, rather than faulting?

A. Amoco is using these -- the seismic to find basically what would be Exhibit -- give me a minute -- the one you questioned me about with my handwriting on the side

of it. I don't have the number, Mr. Carr.

MR. CARR: That would be Exhibit 12 from the original application.

THE WITNESS: Amoco is using this basic technique, to the best of my knowledge, to define these fairways, and they have had mixed results in finding the fairways. And one thing they can say is that they can't predict the sand.

Mewbourne Oil Company has had a specific instance where we drilled a dry hole -- it was called our Diamond A prospect -- in the northwest corner. I'll use this by example. It was a dry hole with no sand. Amoco -- ARCO drilled a west half of the other section. It hit a sand and produced okay. And they offered Mewbourne an opportunity to participate right between the two, our dry hole and their producing well.

We saw lower pressures and a barrier in the well, in that particular well. It was the ARCO Dorothy. We stayed out of the proposal right between them. I believe the name of the well is the Evelyn 35.

It didn't have any sands. It was a seismic opportunity, exploration opportunity in the Morrow. We believe that because of the poor performance of the Dorothy well, that it was stratigraphically limited much like ARCO -- Anadarko original hole and sidetrack hole in the

well.

We stayed out of the well, it was a dry hole, they encountered no sand.

Q. (By Mr. Ernest Carroll) Mr. Moore, let me ask you just a few more questions and wrap this up.

Returning to your Exhibit Number 1 --

A. Certainly.

Q. Now, the pod that you -- You've shown a pod here, and I -- on your isopach of 40 foot.

A. Right.

Q. Can you tell me what well anywhere in this area has a gross sand of 40 feet?

A. I can't point to a specific well. But I can tell you that if you look at the relationship between the Bass well in 2, the 2H well, and the well in 1 -- I believe it's L -- with 18 feet on that map, is a rapid stratigraphic -- was a rapid thickness, and it appears to be the only 35 one in the pod.

Q. Well --

A. I wouldn't have predicted that either. But the Morrow is an elusive, very variable animal.

Q. I understand. Now, can you show me -- You show no wells or no points of location to show or establish that you have this pod, this thickening here, this gross isopach thickening, laying almost east-west, do you?

A. Please ask the question again.

Q. All right. What I'm trying to delineate is, where you get the orientation from well data of this thickness that you show running in an east-west direction here on Exhibit Number 1.

A. Okay. I believe that we look in Section 1, we see a well in location -- It has 25 feet on it. We have a well with 18 feet on it in there. And we have the Bass well in 2H with 35.

We have established somewhat of a northwest-southeast depositional pattern that is a little bit more east-west of north than north. I projected it up through our location and I brought it out to the west. And I think you would agree with me that if we look in 34, that well has four feet. The well in 16F -- I'm sorry, 3F -- has 16 feet in it.

Now, to continue that depositional pattern in strictly a northwest pattern would not honor the data points. I have to come south a little bit, which puts a little bit of an east-west wave in there. But it's highly interpretive.

Q. Well, that's the point, and what I would like -- I guess really my last question here is that how would you -- you would have to totally reinterpret -- You have this 10-foot contour line and a 20-foot contour line that

extend way out past -- to the west of Section 34. You now know from your log that the location of this well in 34, you have 12 feet?

A. Well, that's correct. What I'm going to have to do is, I'm going to put a 12 there. And what's going to happen is that this western or northwestern end of it is going to slide to honor that point.

And I'd like to point out that we have 12 feet of sand. If we go back to the Bass exhibit, they forecasted zero feet of sand. And I said that this was a highly variable sand. So the fact that we have 12 feet, we recognize that it's variable, but we had sand. Under the Bass map, this would have been zero.

Q. Well, Mr. Moore, you recognize that the interpretation that Bass did was based on porosity, rather than your gross sand, do you not?

A. Well, Exhibit 10, Exhibit 10, where I have my -- the map is under mine, I believe they've honored my data points. So this would be the gross sand. They've reinterpreted my calls to do that. I think these will be pretty consistent. May I show you?

If we look in 3, unit F, 16 feet on both maps, 16 feet on the well to the east.

If we look up in 35 -- I'm just going to take a couple of these. If we look up in 35, if we look in H, 17

feet, 17 feet on this map.

They've recontoured my map. It's got nothing to do with porosity. In my opinion, this is truly what's happened.

Q. Now, just one last question.

A. Is that correct?

Q. Excuse me?

A. Is that correct?

Q. I'm sorry, I didn't --

A. I said, they've recontoured my map; it doesn't indicate --

Q. That Exhibit 12, I believe, is what we were looking at.

A. Oh, I was looking at Exhibit 10.

Q. Oh, Exhibit 10? There was -- when we return -- I think the testimony reflected, Mr. Moore, that they used your data to recontour the map on --

A. I --

Q. -- that one with the lines overlaying.

A. That's correct. And we believe that map that Bass has recontoured has been proven in error by the well in 34 because it accommodates no sand whatsoever.

Q. You had Exhibit 14 as one of these group of Exhibits?

A. That's correct. On Exhibit I believe it's the

net clean sand?

Q. Yes. But that doesn't show a zero, does it, like you were indicating a minute ago?

A. Well, let me show you. Do you see Section 34? Do you see the dot? Are we looking at the same map?

Q. Well, now I've -- Here it is.

A. Do you see the dot? I believe --

Q. I see -- What you're talking about is the well in 34?

A. That's right. Bass has forecasted that it would be very similar to the well in G. That's a zero. This map is incorrect.

Q. Well, Mr. Moore, doesn't that map -- the -- You're actually getting into an area where there are no contour lines and there are no data until you drilled this well, correct?

A. My exhibit forecasted some sort of sand trend through the location.

Q. -- no data to show or to -- that you used to infer that forecasting on?

A. I just believe it's the proper interpretation.

MR. ERNEST CARROLL: You just believe. All right, thank you. That's all.

MR. CARR: No redirect, no questions.

EXAMINER STOGNER: Mr. Bruce?

MR. BRUCE: No questions.

EXAMINER STOGNER: I don't have any other questions.

MR. CARR: At this time I would call Bryan Montgomery.

BRYAN MONTGOMERY,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. State your name for the record, please.

A. Bryan Michael Montgomery.

Q. Where do you reside?

A. I reside in Tyler, Texas.

Q. Mr. Montgomery, by whom are you employed?

A. Mewbourne Oil Company.

Q. And what is your current position with Mewbourne?

A. I'm the manager of evaluations and reservoir engineering.

Q. Have you previously testified before this Division?

A. Yes, I have.

Q. At the time of that testimony, were your credentials as a reservoir engineer accepted and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Applications filed in these cases by Bass and Santa Fe?

A. Yes, I am.

Q. Have you made a study of the Morrow reservoir i the subject area?

A. Yes, I have.

MR. CARR: Are the witness's qualifications acceptable?

EXAMINER STOGNER: Any objections?

MR. ERNEST CARROLL: No objection.

EXAMINER STOGNER: So qualified.

Q. (By Mr. Carr) Mr. Montgomery, have you reviewed the exhibits and testimony offered by Bass at the February 20th hearing in these consolidated cases?

A. Yes, I have.

Q. Have you reviewed the approach that they used in modeling this reservoir?

A. That's correct.

Q. Are you in agreement with the methods employed by Bass to model the reservoir?

A. Not in full.

Q. And where do you differ from Bass's approach?

A. Where I differ is, there are some inconsistencies with the methodology they used and with the conclusions

they reached.

If I might elaborate just a little bit, their engineering firm, Platt, Sparks and Associates, did a reservoir history match, so to speak, of the Bass geology.

What they did was input the actual flow rates and try to match the initial pressures of offsetting wells, which is a good first step. But it didn't go far enough, and that's why I have a problem.

They did not -- By not going far enough, it damages the conclusions that they reach.

Q. What more should they have done?

A. Well, they should have tried to obtain additional pressures to substantiate their model. They operate wells in this field, they could have easily got those pressures, but they did not.

There were other inconsistencies in the actual data. We weren't here to cross-examine them, but I found a few inconsistencies.

Most damaging is the inability to predict for the wells to actually recover what they show on their own volumetric exhibits.

In part of their testimony they list volumetric exhibits that show 77-percent recovery. And in the same exhibit they show that the cumulative production from the 11 wells is 15 BCF. They expect about 22 BCF, and the

volumetrically gas in place, initial gas in place, is 45 BCF. That's 50-percent recovery. Their maps are too big.

They tried to run Mewbourne's maps through there, but erroneously used a gross map, not a reservoir net map to be used for history matching.

So they just fell short. They began well.

Q. All right. When Bass testified in February, they testified they expected their Turkey Track State Well Number 1 in the east half of Section 2 to recover about 2.5 BCF.

A. That's correct, that was --

Q. Do you agree with that?

A. To some degree. I'd use 2.7 BCF, but that's within, I think, engineering accuracy. Both numbers are probably the same thing.

Q. Would you refer to what has been marked for identification as Mewbourne Exhibit Number 2?

A. Okay.

Q. Would you explain to Mr. Stogner what this is and what it's designed to show?

A. This is designed to show the drainage area and volume of the well in 2H.

Q. This is the Bass well?

A. This is the Bass well in 2H.

Q. And how did you go about estimating the drainage

area?

A. What I did was -- And I studied the whole area; this is one of the wells that I studied. I tried to use typical parameters for the lower Morrow, honoring the gross trends and, using a volumetric equation, backed into a volume that is being felt by this well.

And as you can see, the porosity, water saturation, et cetera, we don't need to go through all these. They're very, very similar to what is in Bass's own exhibits.

And I believe what we see here, the conclusion is that there is 4138 acre-feet being felt and drained adequately by this well. These reservoirs drastically change in thickness, and the well is 30 feet thick, net, in my estimation. Using an average of 15 feet, which seems reasonable over the total drainage area, would yield 275 acres.

Q. Is your acreage in Section 35 at this time being drained by the Bass well?

A. It's too hard to tell because between wells it's difficult to pin exactly where everything is going on, but it looks like if it is, it's just slightly so.

Q. Have you been able to make any estimate of the productive acres that are available to Mewbourne in Section 35?

A. Yes, I believe that in the south half of 35, extremely to the south, we may encounter a thick net reservoir, and that by placing a well there we will be able to drain the whole 320-acre unit that we have, the standup unit, to the extent that it's already had a well producing and there will be some drainage encountered there.

So several -- Hopefully, if the maps are right, there is 320 acres available.

Q. Your Exhibit 2, in fact, shows that there is a large area that is currently being drained by the existing well in Section 2; is that right?

A. Large in relation to some other wells that have smaller numbers when you do the same thing, yes, it's relatively large.

Q. From the data that is available to you on this well, and your review of the data that was presented by Bass, can you see any evidence of a fault traversing Section 2, as Bass has placed that fault?

A. Absolutely not.

Q. Can you locate a fault in this section without additional geological support?

A. No.

Q. Do pressure tests in the Morrow show you, generally, a boundary effect?

A. Yes, pressure testing in the Morrow, especially

in high permeability, can find boundaries, and do almost all the time.

Q. Is a boundary -- A fault is a boundary, is it not?

A. That's correct, it's one type of boundary. There are many types.

Q. Change in permeability would be another?

A. That's correct. And normal pinching out of the sand would be the same response as a fault. A thickening will show a response. There's several things you can glean out of a pressure test.

Q. We were looking with Mr. Moore at the -- I believe it's an Anadarko well in the east half of Section 35, the one that was drilled as a straight hole and then sidetracked.

If pressure testing was done on that well, would you expect to see the same sort of a boundary effect that is being seen in the data that Bass has presented on their well in Section 2?

A. Absolutely, depending on the permeability and the time. If the test was run, you would certainly see that pinchout.

Q. Based on the information that you would have from that pressure test and the other information you have seen, could you make a determination as to whether or not you

have actually a fault or some other boundary effect?

A. The probabilities are strongly in favor for stratigraphic changes and not faulting. It happens over and over in the Morrow.

Q. And even if you had a fault, is there any way from the data you've seen to place the fault in any particular location in respect to the existing well in Section 2?

A. No. I haven't seen the pressure test, I haven't seen the seismic that's been alluded to. But even with the pressure test there's no way to tell the side the fault would be on, the angle toward the well would be on without serious testing, and there would be serious doubt in your conclusions.

Q. Could you just summarize the conclusions that you've reached from your study of the data available to you on this area?

A. There are variable sand thicknesses and areal extents to these Morrow wells that intersect a sand that's productive, that you can quickly and rapidly move into a short distance of space, a much thinner or thicker section.

But the wells generally have very good permeability, not always, and they're adequately draining different-size pods.

What we think is that there's room for a

reservoir net pod in the south half of 35, and it is not being adequately drained by any other wells, and we'd like to go out and test that.

Q. If you're to efficiently drain the reserves in that pod, you have to locate the well as Mewbourne has proposed?

A. Yes, that's correct.

The problem with limiting yourself -- or not limiting yourself to the south half, as our interpretation goes, you get closer to other production which may have some -- There is a pod I show to the north.

I don't have a map here, but in my work I show that 35F and 35H are in a common reservoir, and we would not want to get too close to that. Plus we believe there's a new pod developing that is mostly thicker in the southern portion of 35.

Q. What would be the impact on Mewbourne and other operators in this area if Bass was permitted to drill an additional well in the east half of Section 2?

A. That would be detrimental to the other operators.

Q. And why is that?

A. Well, it stands to reason that with two wells in the same reservoir, as other potential wells to be drilled in the future, they would outcompete the offset operators, they would have better take potential, better drawdown.

There are several reasons.

Q. Now, Mewbourne is recommending that the Application of Bass for simultaneous dedication of wells in that tract be denied.

If that Application was granted, does Mewbourne have a recommendation to the Examiner as to how that should be handled?

A. Yes, I think the only thing that would be fair would be to not allow them to produce both wells -- that would be 2H and this new well in Section 2 -- at the same time, that they alternate, plug one or something like that, so that it's a one-to-one relationship with offset operators.

Q. Was Exhibit 2 prepared by you?

A. Yes, it was.

MR. CARR: At this time Mr. Stogner, I move the admission into evidence of Mewbourne Exhibit 2?

EXAMINER STOGNER: Any objection?

MR. ERNEST CARROLL: None.

EXAMINER STOGNER: Exhibit Number 2 will be admitted into evidence.

MR. CARR: And that concludes my examination of this witness.

EXAMINER STOGNER: Thank you, Mr. Carr.

Mr. Carroll, your witness.

CROSS-EXAMINATION

BY MR. ERNEST CARROLL:

Q. Mr. Montgomery, you -- I think you've criticized the reservoir history that was performed by Mr. Payne by -- and you used the statement that they didn't go far enough. Would you explain? Are you talking about far enough in time, far enough in areal extent by looking at additional wells? What?

A. Mainly what I mean by that is methodology and data gathering. To use that technique -- It's a good starting point, and they began with a good idea.

But to make the conclusions that they made from where they finished up with their history matching, they did not validate the model very well. They show all this gas in place and only 50 percent being recovered in their own exhibits.

Q. Well, Mr. Montgomery, you still haven't answered the question. Are you saying they didn't go far enough in time, or are we talking about areal extent in not looking at additional wells?

A. Areal extent wouldn't have been a recommendation. They could have done a lot better with the wells that they had chosen. I think there were 11 wells.

Q. Okay. Now, how would they have done better with the wells that it would show?

A. The first thing to do would be to try to get better information about pressure testing, subsequent pressure testing, from their own operated wells. I know it's difficult in public data to do that, and then you just can't. But then your conclusions aren't as strong when you can't.

But they did have the opportunity in the well in 2H, and -- Maybe they did and I haven't seen it, but I haven't seen it. And some of the conclusions they get are just so inconsistent that it just draws a cloud in my mind.

Q. Well, let's look at the data that you used on your Exhibit 2.

A. Okay.

Q. First of all -- Just a second. In conjunction with your Exhibit Number 2, did you try to do a simulation for these wells yourself, or did you just perform a criticism?

A. No, this is a simulation of a simple matter of volumetric calculation. It is not a reservoir simulation with flow equations, a computer simulation, as it might be termed, but those -- the better maps you're -- some of your hand calculations, some of your volumetric calculations, to a better degree than it seemed that they did in their simulation model.

Q. Now -- So all you've done is just this one basic

computation that is found or -- in Exhibit 2?

A. No.

Q. Is that correct?

A. No.

Q. What else did you do, then?

A. I studied the whole area in a similar fashion.

Q. How did -- What kind of study? Did you just look at -- What kind of data?

A. I looked at all the production data, all the pressure data, all the logs, all the scout tickets, made volumetric calculations and prepared my analysis for the prospect, more so than for this hearing.

Q. Where are those volumetric calculations? Did you bring them with you?

A. No.

Q. What -- How many wells did you perform a volumetric calculation on?

A. I don't recall the exact number, but I'm very familiar, I think I could say maybe the same 11, maybe a few less than we see in the Bass study.

Q. Well, did you have any different pressures than Bass had in the presentation of -- and preparation of its simulation?

A. No.

Q. All right. Now, when you -- You criticized, I

think, Bass's use of the 77-percent recovery rate for the reservoir; is that correct?

A. No, I criticized the inconsistency of saying on one page they assume a 77-percent recovery to an abandonment pressure of, I think, 500 pound, and on another page saying the model study is only going to get 50-percent recovery of what they're saying is the net map.

Q. Well, as I recall the exhibits, they did not use an abandonment pressure of 500 p.s.i. That is a number which you have apparently come up with. Can you tell me what wells that you have studied that actually establish a 500-p.s.i. abandonment rate?

A. Certainly. I may have to go through my notes, but I can start with 2H. 2H, in my mind, using this analysis, is -- obviously have a 500-pound abandonment.

Q. Well, let's just talk about that analysis. Now, you said, I think, in your testimony that you used some general reservoir parameters to come up with this. With respect to porosity, where did you get the .09?

A. That was obtained by looking at several wells and trying to determine how -- between wells, how these things might average. Also reviewing Bass's numbers. In the volumetric pages -- The only porosities I ever saw from Bass's numbers were 9 percent.

Q. Well, I think we differ there. If you -- What we

believe we presented was something on the order of 12.12. If you increase the porosity, you would necessarily lower in your calculation the amount of acreage that you are showing drained, correct? That would be the effect?

A. Absolutely.

Q. All right. Now, if you used a different estimated abandonment pressure, if you used 1000 instead of your 500, that too would have the effect of reducing the amount of acreage that you ultimately end up as being drained, correct?

A. When you use the abandonment pressure, the permeability usually helps you -- allow to get to a fairly low abandonment pressure. The higher the permeability, the lower the abandonment. I wouldn't use a higher pressure for 2H. I might in other wells.

Q. Well, why would you use it in other wells and not 2H?

A. It depends on the permeability, and it depends on how many wells you have in that particular pod. If you've got several wells, you can get to a low abandonment pressure on each well. If you have one well, it will be higher.

Q. Well, we also -- We know right now that you didn't use the actual calculated porosity from any logs for 2H; is that correct? You used some inferred number from

looking at other wells, correct?

A. That's correct. But I know the -- I've seen the porosities of all the wellbores.

Q. Well, that's fine. You didn't use the actual porosity.

Now, with respect to the 15-foot average that you used down here --

A. Yes.

Q. -- the testimony indicated that it was approximately 30 feet of net sand that Bass believes is contributing to this well.

If you use the -- an average of 30 feet, you would again reduce the number that comes out here, your 275, correct?

A. It's simple enough to see what the effect of changing these numbers would be. The simple fact is, these reservoirs go from very thick to very thing. They have a larger areal extent that's not a 30-foot constant-thickness reservoir. What I used was a footage that was consistent with other studies in the area.

Q. But not with what actually is shown in the well from the logs.

A. That would be improper to use that number.

Q. Oh, improper. Well, how do you show -- And you've seen the Exhibit Number 1 that your geologist

testified to. You show a net thickness there of -- or a gross thickness of 35 feet. How do you account for some 20 feet difference in the number you used in the map -- the mapping that you have in Exhibit 1?

A. Let me repeat again. Where the well intersected, that particular location of 2H, there's, say, 35 feet of gross, 30 feet of net. But the drainage area that that's drawing from, inferred by other studies in the area, several instances -- The sidetrack log is a good instance, 1L is a good instance. These thicknesses don't remain constant.

I'm trying to use a more reasonable estimate of the total drainage area's thickness and just make it simple to show the 275 acres.

Q. Now, you made a statement, and I wish you'd clarify because I wasn't sure if I heard you correct. I think Mr. Carr asked you if you thought that the Bass well was draining Section 35. Did you state that you didn't think it had much effect on the Section 35 acreage? Is that -- was that a fair --

A. The statement, if I didn't -- wasn't clear before, let me try to make it more clear.

It's impossible to determine the exact shape and size of these volumes that that well is draining. But one probable shape and volume would have just a very slight

impact on 35 but a significant impact on the west half and especially -- I mean the east half, and especially the northeast half of Section 2.

Q. Well, the map -- Somehow I don't understand the mapping that is on Exhibit Number 1. If you're to believe how that is depicted there, it would appear to me that the Bass well would have a significant impact upon Section 35, the way you've drawn the pod.

MR. CARR: I'm going to object to the form of the question. I mean, Mr. Carroll has said something appears to him and -- Can you state it in the form of a question?

EXAMINER STOGNER: I think that's reasonable, Mr. Carroll.

Q. (By Mr. Ernest Carroll) All right. Mr. Montgomery, when you look at Exhibit Number 1 -- Do you have that?

A. Yes, sir.

Q. There is a pod which is shown and colored red. I do not understand your statement that there would be no drainage, or very little drainage on the Section 35 proration unit, if I'm understanding what you just reiterated to me, based on the way this map is drawn. Could you explain your answer in light of this map?

A. Yes. I didn't draw this map. This is a gross fairway map of a trend of deposition.

The net maps, or the net volumes that these wells seem to be draining to me would follow this trend in general but would not continue to go on exactly like a gross map.

These things are highly variable, these reservoir accumulations and the sand deposits are highly variable, they come and go rapidly, thicken and thin rapidly. And what you're mixing up is a gross map from a net map that would be used to do the reservoir calculations.

And furthermore, if this map -- if the Bass map or our maps were better representations of the net maps, the well in 2H might be much better than it is. I think we can agree that it's about a 2.5- to 2.7-BCF well.

And I'm just trying to represent that on a reasonable volumetric calculation of the average thickness -- not using the 30 feet, not using the best porosity which it encountered -- that it would be about 275 acres.

Q. Do you have a net map --

A. No, sir.

Q. -- how you mapped the net pod down in the south half of --

A. No.

Q. -- Section 35?

A. No, sir, not with me. It is, in general,

trending as this gross map does trend.

Q. Well, does it cross over into Section -- the Section 2, over into the proration unit in which the Bass well is situated?

A. Does it cross over into Section 2?

Q. Cross in a south --

A. Which net pod are you going to be talking about? The one around 2H?

Q. You have shown on Exhibit 1 a red pod.

A. Uh-huh.

Q. That red pod, it almost -- as much lies in the proration unit of the Bass well as does in your proration unit.

Are you saying that the net pod follows the general shape and extends much as this gross pod does, within the 40-foot interval contour?

A. Our interpretation is, the direction of the pod is correct, that the net pods would be peanuts or circles or sausages, laying through there.

Sometimes two wells produce out of the same pod. Sometimes it seems like you get virgin pressure and you have a new pod. It's a mix of maps, in some -- to some degree.

Q. Are you saying that all of the 11 wells, then that were studied by the Bass people, are in 11 different

pods, because none of them came in the same --

A. No, sir --

Q. -- the same --

A. -- not at all.

Q. -- the same pressures?

A. Right, not at all.

Q. Do you think they are connected?

A. It's my recollection that 2H and 1L could be connected, 35F and 35H could be connected.

Q. Well, are you saying 2H is not connected to the pod that you've shown in the south half where you want to drill your unorthodox-location well?

A. That is -- There will be a prospective net pod that I would draw in there, and it's our -- We want to go out and see if we can prove that pod up.

There's -- I don't have the reservoir data to show a pod there. The geologic trend shows, let's go try to see if there's one there, because the current wells haven't completely drained what we think the total extent of that sand is, and we're hopeful to make a well in that south half.

Q. Do you have any data which shows that if you drilled your well at an orthodox location, that you wouldn't get into this net pod?

A. The data we show is that we will probably

encounter the northern pod and be depleted.

Q. So you've got now another pod in the west half of Section 35, then; is that what you're telling me?

A. In the north part of Section 35, I feel like there is a pod up there -- I forget the size; it's some 320 to 400 acres -- that would encompass those two, and it's impossible to exactly say where it stops and begins. But the risks become greater, the further you move north, that you'll encounter a depleted area of the lower Morrow and not find something like 34 where we found virgin pressure and hopefully some areal extent to that well.

Q. Mr. Carr asked you a question concerning faulting, and you said you had reviewed the evidence, and you don't find any evidence of faulting. What did you actually review?

A. All I had to review was the Bass testimony, the -- in Bass exhibits, the Platt Sparks folder.

Q. So you have done basically the same thing the Bass expert did and come up with a totally different interpretation, then? You have no new evidence to offer, then?

A. I do disagree with the Bass interpretation, yes, I do. I do not have that pressure test I think that they must be using, or the seismic data.

Q. Now, you indicated something about pressure-

testing the well that is in the northern part of the Section 35 proration unit that you operate. And I was unclear. There were some general questions by Mr. Carr concerning what you might be able to determine through pressure testing in determining whether or not there were barriers within a reservoir.

Did you say you had looked at the pressure testing from that well that has been depleted?

A. No.

Q. All right. So you have no pressure testing to substantiate one way or the other or give you any indication that you have a separate pod up there then?

A. I think you've confused the question. I didn't understand it. I do not have any pressure-test information. The pod information is not based on pressure testing; it's based on volumetric recoveries of what I expect to be the porosities, water saturations and thicknesses of those wells in 35, the north half of 35.

Q. Pressure plays an important part, though, in --

A. Yes, I have --

Q. -- calculating those?

A. I have initial pressures in my notes of public data pressures, not pressure transient testing. Make that more clear, I'm sorry.

Q. With respect to your statement about there being

a depleted pod, this well up in the northern part of Section 35, when I look at your Exhibit Number 1, I see no reservoir or pod being shown up there. In fact, to me Exhibit 1 contradicts your statement.

A. I don't think so. This is a gross map. You could easily overlay a net map. This 8 foot of gross you see in 35F and the 17 in 35H have net numbers associated with it. You would be simply drawing a pod, assuming that geology, and those production numbers like I have on my Exhibit 2, and drawing a volumetric recovery. I think it's fairly straightforward on how that's done.

Q. Was there a reason why Mewbourne didn't prepare a net pod map for presentation to the Commission in support of this Application?

A. The reason would be it was, I think, unnecessary to make our case, that it would be extraneous, that it would be our confidential -- some of it is our confidential information, just like we don't see the seismic data from Bass.

Q. In looking at Mewbourne's map, it seems to indicate to me, and I want you to see if you agree with it, that you're saying that the reservoir, the lower Morrow reservoir up here, the orange sand, is in good communication throughout this area?

A. That is not correct.

Q. Okay, so what you're saying is that you just have isolated pods throughout this entire area?

A. I believe that's true. Some pods are bigger than others. There's a well in 3F that I think has a very small pod associated with it. It made 100 million. It would calculate a very small drainage area.

I found some of the Bass numbers to be inconsistent with their own maps on what they were draining. I don't have -- I don't know what abandonment pressures they used in the model simulations, but it didn't fit.

Q. When you were studying, in particular, the 11 wells that Bass used in its computer simulation, or modeling or whatever, did you notice that nine of those 11 wells, when you looked at the relationship of when they were drilled timewise, that they all came in at succeedingly reduced pressures?

A. Yes.

Q. Doesn't that indicate to you that all of those nine wells, then, at least, were in communication with each other?

A. They were in pressure communication, and through a gross sand I think that would probably be the case in a lot of wells. It depends on just how tight and how much you lose your net and gross sands.

The pressure communication cannot be confused with the recovery, the ability to recover large distances. But you could certainly have a pressure communication in a system of a gross sand with the net pods -- somewhat separate net pods, even though slightly connected through gross intervals.

Q. Are you saying that you can have a pressure communication without drainage?

A. You can have a pressure communication without extreme drainage. There will be a very, very slight amount of drainage. The more the pressure communication, the more the drainage.

There would be some drainage, yes, with pressure communication.

Q. Now, the well -- can you tell me -- As I understand from the testimony that has just been given, that the well in Section 34 is displaying virgin pressures.

A. I'm not exactly sure what the virgin pressure would be in every instance, but it's 4400 pounds, and that would be very close. It might be slightly depleted through some gross connection.

Q. Well, are you saying there's no connection -- Your map shows, at least, through a gross interval, that this area is connected. Are you saying that this Section 34 well is not connected?

A. In a gross basis, we sure hope it's somewhat connected so we can find better reservoir quality pods to deplete reasonably.

Q. Well, if you've encountered a separate pod there, you could also -- Wouldn't that also indicate that you might be in a separate channel?

A. That's potentially true. This is our interpretation, that the channel trends the way it does on Exhibit 1.

Q. The -- Can you tell me what the porosity was that was calculated for that Section 34 well, and the thickness of that porosity?

A. Just on recollection, rough numbers, we're talking about 8- to 10-percent porosity and 10 to 12 feet net pay, and gross pay would be similar to the net.

Q. Gross pay?

A. Both gross and net would be similar. There might be a few feet difference. But I don't have the logs, I haven't seen the logs. It's a telephone conversation.

Q. All right. So you don't have the logs --

A. I have no firsthand knowledge.

Q. Can you explain why that over here in Section 34 you would have gross and net pay being almost identical, and yet you're apparently indicating that over -- as you move slightly east, that there becomes some great

diversions there?

A. Yes, the Morrow sand is highly complex, highly variable. And what happens is, sometimes they match up and sometimes they don't. It's just too complex. That's our whole point.

Q. What was the water saturation of your Section 34 well?

A. I don't have that with me, but the resistivity was 10 ohms, which is concerning, except for the fact that 3F had about the same resistivity and was highly productive with very little water.

We believe that high-permeability reservoirs will exhibit, sometimes, a depressed resistivity. But it could have high water saturation and begin to move some water, which could -- which would be detrimental.

Q. I thought Mr. Moore testified that there was a 70-percent water saturation. At least that's what we heard. The Bass well in Section 2 has 25 percent.

How can you explain -- If that is, in fact, the true numbers, how can you explain a much higher updip water saturation?

A. I think, really, by just -- It's hard to explain. But the variability of the Morrow, I think, is the best explanation, and that you sometimes don't always get repeatable results. You have to drill wells.

Q. With respect to your study of these orange sand wells out here, what were the average recoveries? Bass presented an Exhibit Number 7 in its case, and it listed the wells and found their average gas recoveries and what have you.

What numbers were you using, and where did you get yours?

A. Would you define "recoveries"?

Q. Well, how would you define them?

And -- You've come up with a -- in your exhibit here -- You show a cumulative production and then you show an estimate, ultimate recovery. What is that? How do you define it?

A. Okay, those are gas recoveries --

Q. All right.

A. -- in just absolute MCF.

Those recoveries would be not unlike the recoveries I would use, the one that Bass used in their exhibit.

I remember a fairly close conformance. Several of the wells have made most of the reserves they're going to make; there's just not that much left to recover except for 2H.

Q. All right. Now, in the Exhibit 7, Mewbourne showed --

A. Which one is Exhibit 7, please?

Q. It was Exhibit 7 of the Bass exhibits.

A. Could you show me that one?

Q. It was the one where they did the calculation.

A. Behind Tab 7? No, it's --

Q. No. It's this one.

A. Okay. I need to borrow one. I don't have one with me, but I remember the exhibit.

Q. This is my only copy.

A. Okay.

Q. There were -- And I want to find out, basically, on this Exhibit Number 7, they show for the location different wells, they showed footages for the pay which they -- Bass felt was contributing to the estimated ultimate recovery.

Did you determine -- Do you agree or disagree with those numbers? And did you --

A. There are several numbers on the page.

Q. Yes.

A. The Bass numbers are based on numbers, I think, that they will claim are net-pay numbers that contribute.

Q. Uh-huh.

A. The Mewbourne numbers are based on gross pay numbers. They are -- You can't compare them.

Q. Okay. Now, with respect to the Mewbourne

numbers --

A. Yes.

Q. -- that are listed for each of these wells, they show a net -- a gross pay of 24.5. Do you agree or disagree with that as being an economic thickness?

A. The question, I don't think, is a very easy one to answer because you seem to be still confusing the difference between net pay and gross pay. So let me restate those numbers on that exhibit. They erroneously compared apples and oranges, or whatever you want to call it.

Q. Well, what -- and what I'm trying to do is just isolate Mewbourne's numbers and just take them for whatever they are. If they're gross numbers, they're gross numbers.

The fact is that your gross numbers show that what is needed for an economic well is an average of 24.5 feet of gross pay.

A. That is not correct.

Q. So you're -- You don't feel like that is an economic thickness, then, based on the ultimate recoveries that have been obtained from these wells?

A. If you had a gross thickness of this 25 or so feet, and you had net thicknesses, similar, with large areal extents, you'd make one heck of a well.

Unfortunately, that doesn't always work. You've

got to -- So you don't know what the economics are going to be until you know the drainage volume is going to be, which is based on a net thickness, not a gross, and the area, which is usually determined after you've seen the well produce for a while, and you see how much of an area that well is -- as in 2H is producing quite a large area, 3F quite a small area.

Q. Well, would you say that a well that had average recovery of 3.0 -- let's just round it off -- BCF and 22,000 barrels of oil, are you saying that that well is not economic?

A. No, I'm not. That probably would be very economic. We would love to have something like that.

Q. The orthodox location that is shown on your Exhibit Number 1 would show a gross thickness of almost 30 feet; isn't that correct?

A. It looks like just short of 30 feet, between 20 and 30, based on this interpretation.

Q. All right. It's much closer to the 30 line, though?

A. Right, I would -- It looks like maybe a 28 or something like that.

Q. The little X is where an orthodox location would fall on that Exhibit 1; isn't that right?

A. That would be one orthodox location, that's

correct.

MR. ERNEST CARROLL: I pass the witness.

EXAMINER STOGNER: Mr. Carroll.

Mr. Carr?

MR. CARR: I have just a couple --

MR. BRUCE: No questions.

REDIRECT EXAMINATION

BY MR. CARR:

Q. Mr. Montgomery, in preparing your study you had information that Mewbourne has in its files; is that right?

A. That's correct.

Q. You had public information; is that correct?

A. That's correct.

Q. You had the prior testimony and exhibits presented by Bass in the February 20 hearing; is that right?

A. That is correct.

Q. There was certain information on the Bass properties in the area that you did not have; isn't that correct?

A. It looks as if there was a pressure test and some other data that I did not have. It was not public data.

Q. That information was sought by subpoena, was it not?

A. That's correct

Q. Bass didn't produce the data, did they?
A. No.
Q. They moved to quash the subpoena; isn't that correct?
A. That's correct.
Q. And because of that, you have not had the data available to you that you might have had in making this study; isn't that right?
A. That's correct.
Q. If you'd had additional data, you could have made a better study, could you not?
A. Always.
Q. With the data available to you, you can see, however, that there's been a consistent confusion of net and gross thickness in the sand?
A. Yes, that's apparent.
Q. Do you have sufficient data to you to be able to conclude that there are substantial errors in the Bass study?
A. Substantial errors, and maybe not as much errors but misconclusions, inconsistencies.
MR. CARR: That's all I have.
EXAMINER STOGNER: Mr. Carr.
Any further questions of this witness?
MR. CARR: No further questions.

EXAMINER STOGNER: He may be excused.

Do you have anything further, Mr. Carr?

MR. CARR: That concludes my presentation.

EXAMINER STOGNER: Okay. I'd like to ask each one of you to submit a rough draft order.

MR. CARR: Yes, sir.

EXAMINER STOGNER: Are you going to put on any additional testimony?

MR. ERNEST CARROLL: No, Mr. Stogner.

I'm sorry, my hearing aids are -- I don't know if it's just the flight up, messed up my ears, but I'm having a little trouble, as you may have noticed, and I don't know what's going on with one of them.

MR. CARR: Mr. Stogner, if I could coordinate with Mr. Carroll so we can file those statements as soon as possible but when -- consistent with your schedule may be. Mr. Carroll is going to trial again.

MR. ERNEST CARROLL: Excuse me?

MR. CARR: Mr. Carroll is going to trial again in another two weeks, but we'll get them to you as quickly as we can.

EXAMINER STOGNER: Okay. If you'll coordinate with each other.

Anything further in these matters?

MR. CARR: Nothing further.

EXAMINER STOGNER: Then that -- I will take both cases under advisement.

And let's take a 20-minute recess at this time.

(Thereupon, these proceedings were concluded at 11:00 a.m.)

* * *

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL April 8th, 1997.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case Nos. 11758 and 11713 heard by me on 3 April 1997.

, Examiner
Oil Conservation Division