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 AND SANTA FE ENERGY COMPANY FOR THE RESCISSION OF DIVISION ADMINISTRATIVE ORDER NO. NSL-3745, EDDY COUNTY, NEW MEXICO

CASE NO. 11,713

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

February 20th, 1997

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, February 20th, 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

February 20th, 1997
Examiner Hearing
CASE NO. 11,713

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A P P E A R A N C E S

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* * *

WHEREUPON, the following proceedings were had at 9:53 a.m.:

EXAMINER CATANACH: At this time we'll call the hearing back to order and call Case 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 CATANACH: Call for appearances.

MR. ERNEST CARROLL: Mr. Examiner, I'm Ernest Carroll of the Losee, Carson, Haas and Carroll law firm of Artesia, New Mexico, and I'm here on behalf of Bass Enterprises and Santa Fe.

Bass Enterprises will be the only party presenting witnesses today, and I have three witnesses.

EXAMINER CATANACH: Additional 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. We represent Mewbourne Oil Company in this matter. I will not be calling a witness.

It's my understanding that Bass has decided to go forward with their case. At the end of that, Mr. Carroll and I are going to -- with the data that they'll present today, I'm going back to Mewbourne, we're going to attempt to resolve this matter at that time.

But at the end of the presentation it's my understanding that Bass will then move to continue the case. Is that correct?

MR. ERNEST CARROLL: Yes. Mr. Examiner, let me make a few other statements that may help understand what's going on.

Apparently Mewbourne ended up with a problem with their witnesses after their letters earlier in the week. Bass's had already -- its witnesses were committed and were already up here. We couldn't call them off.

We have elected to go ahead and put our case on.

There's also another slight twist that also figures in the -- I guess the reason why we don't object to not getting the hearing totally completed and a continuance, is that we have a well in Section 2, which is just southeast of the proposed unorthodox location, Mewbourne Oil Company, and it's the Turkey Track 2 State Com Number 1.

This application by Mewbourne has caused us to do a complete re-evaluation of what was going on with that well. And we, as the evidence will show in this case, have found that the well that we have in the east half of Section 2 is producing from a very small part of the lower Morrow that exists under the east half of Section 2, that there is a permeability barrier existing.

And quite frankly, this discovery and what have you, kind of changes the complexion, I think not only for us but probably also for Mewbourne.

What we intend to do, as soon as I return back to my offices, is to prepare an application which will allow us to drill another well and simultaneously dedicate another well on this, because we have undrained reserves going on in this east half of Section 2.

We will also move for a consolidation of that case with this case, because it's the same evidence. And hopefully, too, based on all of this new work that we have had done -- And frankly, Bass was overloaded. We have had to go out and hire consultants. The Ronnie Platt firm out of Austin was who we turned to, to help get us over the hump of the shortage of manpower.

But -- So we hope to solve a lot of problems, and that's one of the reasons we're not going to throw a fit because Mewbourne had a problem with getting its witnesses up here. It should allow for us to consolidate and make more efficient use of your time.

And frankly, I think we have three options which Mr. Carr and I are discussing to solve this case. Any one of the three are acceptable to Bass, and I am in hopes that one of them will be acceptable to Mewbourne and there won't be any contested case and we can deal with that aspect of

it.

The only other agreement is, if, for some reason, we are unable to solve the differences, we have agreed that if we intend to put on additional testimony at the new hearing, we will exchange exhibits with Mr. Carr and Mewbourne ten days prior to that hearing. And he has agreed likewise on behalf of Mewbourne to give any exhibits that they would intend to use ten days prior.

So that -- There is a distinct advantage to Mewbourne of getting to see our case, though we hope that it won't ever be used against us, and it's going to expedite the other matters which I spoke of.

So I think that's basically what we've --

MR. CARR: I think that's right.

MR. ERNEST CARROLL: -- discussed and agreed to.

MR. CARR: I think that's right, Mr. Catanach.

As I discussed with you earlier, we're going to exchange exhibits, and we will do that prior a hearing, if there is another hearing.

We're not to a point where anyone's waiving or conceding anything at this point, but we are committing on the record to do what we can to reach a voluntary agreement that will address all the issues that are before the Division, and we commit to you to do that.

EXAMINER CATANACH: Okay. Let's swear the

witnesses in at this time.

(Thereupon, the witnesses were sworn.)

MR. ERNEST CARROLL: Our first witness would be Wayne Bailey, Mr. Examiner.

J. WAYNE BAILEY,

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

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. Mr. Bailey, would you state your full name and occupation and place of employment for the record?

A. It's Jerry Wayne Bailey. I'm the division landman for the west Texas/New Mexico division for Bass Enterprises Production Company in Fort Worth.

Q. Mr. Bailey, have you had an occasion to testify before the Oil Conservation Division of New Mexico and have your credentials as an expert in the field of petroleum land management matters accepted?

A. Yes.

Q. Are you familiar with the Application of Bass and Santa Fe that is the subject of this hearing today?

A. Yes.

Q. And have you prepared exhibits and testimony to be presented in this hearing?

A. Yes, I have.

MR. ERNEST CARROLL: Mr. Examiner, I would tender Mr. Bailey as an expert.

EXAMINER CATANACH: Mr. Bailey is so qualified.

Q. (By Mr. Ernest Carroll) Mr. Bailey, before we get into your two exhibits that you've prepared, would you briefly state on the record what Bass and Santa Fe -- and also can you confirm for the Examiner that Bass and Santa Fe are taking the same position with respect to this Application of Mewbourne.

A. Yes, that's correct. And for illustration purposes I can go ahead and refer you to Exhibit Number 1, which is the land plat that you should have. It's in one of those manila folders.

MR. ERNEST CARROLL: All of the exhibits are in that heavy folder. And I apologize, we didn't end up with quite enough exhibits, Mr. Carroll; if there's a problem we can certainly drag some up.

THE WITNESS: Exhibit Number 1 just shows the lease ownership in Section 2. The west half of Section 2 is not producing.

The east half is a 320-acre pooled unit that is where one Morrow producer is located, and that's the Bass/Santa Fe Turkey Track 2 State Com Number 1.

Bass has approximately 50 percent, a little over 50 percent. Santa Fe as 49-and-some-odd percent. And

we're the only two participants in that well.

And that well was completed, on the Exhibit 2, it says the well was completed December 7th, 1995. So it's a fairly recent well.

So Bass and Santa Fe

So Bass and Santa Fe are here as partners. Santa Fe has signed a written agreement to be jointly represented by Mr. Carroll and to pay half of the costs of the expenses of legal experts and professional testimony.

And basically, we've had this well producing at an orthodox location for a little over a year now, and we received the Application for the Mewbourne location, which is 660 feet away from the south line of their proration unit, and a legal distance is approximately 990 feet away from that.

When we first got the Application, we knew that our acreage would be adversely affected. But we knew that we needed to do some studies of the reservoir to adequately present our testimony, to show the incremental adverse effects caused by the unorthodox distance.

We knew that even at an orthodox location, the Mewbourne well would drain our 320 and would adversely affect it. But the closer you get to our proration unit, we knew that the damage would increase. So that's when we hired Platt, Sparks and Associates in Austin to research

the extent of the damage. And we discovered, really, more than we expected to discover.

As Mr. Carroll stated -- and you'll see all this presented on our geological testimony and our reservoir data, that there is basically a north-south barrier between the Bass-Santa Fe producer and the majority of the proration unit. And we'll be able to show you how much of the proration unit is being drained by the current producer and how much is being -- is not being drained.

And because we have a producer in the 320, we don't have access to those lower Morrow reserves on the remainder of our 320. And also we've discovered that there are some middle Morrow reserves that we don't have in our well and that we will not have access to in the remainder of the proration unit.

Q. (By Mr. Ernest Carroll) Now, Mr. Bailey, on Exhibit 1 you have shown the proposed unorthodox location of Mewbourne, and it's denoted by the distances 1980 from the west line and 660 from the south line of Section 35; is that correct?

A. Correct.

Q. And the Mewbourne location is orthodox on its measurements from the west line, but it is some 990 feet unorthodox on its distance from the south line.

A. That's correct.

Q. All right. Is there any other -- You've already discussed what Exhibit 1 and 2 are. Is there any other testimony that you'd like to render to the Examiner with respect to these two exhibits?

A. Well, just to set up the remainder of our testimony, basically, is the only thing I would have to add, and the results of our recent study have shown several things.

Number one, that the Bass/Santa well is separated from the majority of our proration unit, and thus the statement by Mr. Carroll that we're going to follow up our testimony today with an application for a simultaneous acreage dedication;

that the Bass/Santa Fe well has no access to the remaining portion of the 320-acre unit;

that if Mewbourne drills at an unorthodox location, Bass will suffer a significant loss of additional reserves from the lower Morrow and the middle Morrow;

and that a conventional production penalty will have no effect on the loss of correlative rights to Bass and Santa Fe;

and that now Bass will file an application for a simultaneous dedication, which will include all proper information and notice requirements, and our testimony today will be consolidated with that new application.

Both Bass's second well in its proration unit and Mewbourne's well can be drilled at orthodox locations, and their respective 320-acre units will be sufficiently drained.

And again, Bass is attempting to reach verbal agreement with Mewbourne to hopefully put the wells at an orthodox location. If Mewbourne -- if those discussions are unsuccessful and Mewbourne continues to pursue an unorthodox location, then Bass and Santa Fe will also pursue an unorthodox location for its second well, which would be in the northeast -- or northwest portion of our proration unit.

Q. Now, Exhibits 1 and 2, were these exhibits prepared by yourself or under your direction?

A. Yes.

MR. ERNEST CARROLL: Mr. Examiner, I'd move the admission of Exhibits 1 and 2.

EXAMINER CATANACH: Exhibits 1 and 2 will be admitted as evidence.

MR. ERNEST CARROLL: That concludes my examination of Mr. Bailey.

EXAMINATION

BY MR. RAND CARROLL:

Q. Mr. Bailey, are you aware of any objections submitted in response to Mewbourne's Application from the

owners of the west half of Section 2?

A. There have been none.

Q. Have you been in contact with the owners of the west half?

A. A few of them, not all of them. But they just made a business decision not to spend the time and the effort that Bass has to pursue an opposition to Mewbourne's location.

Q. Yeah, looking at the geologic map submitted by Mewbourne with the administrative application, it looks like the west half doesn't have much of the reservoir located in that half-section; is that right?

A. I don't have their map handy, but if that's what it says, you know, I --

MR. ERNEST CARROLL: Mr. Carroll, I think our geologic interpretation, which Mr. George Hillis is going to show, is actually going to change that.

We differ drastically from what Mewbourne originally presented.

In fact, it stems from a basic -- the manner in which Mewbourne showed the Morrow -- The Morrow sand is a channel sand out in this area and has been quite extensively studied and written on in the literature, and Mewbourne has shown it being -- trending totally opposite to what has been the thinking of the experts over the years

and what has been written.

Mr. Hillis has done a new study on it which confirms all of the original thinking.

And quite frankly, I would suspect that -- and I guess this is -- it kind of -- We think that the west half probably does have significant reserves and production.

But the general thinking that these owners, which is one of my clients, Yates Petroleum, I don't think they're -- You know, they're well aware of this traditional thinking which Mewbourne deviated from, and so I have not talked to Yates or any of these other people as to why they -- And I think that Mr. Bailey -- because I know he has spoke with the individuals -- it was just one of those things; we've got too many other things in the fire, it's not that important to us, they just allowed it to go.

MR. RAND CARROLL: Have they been provided notice of this Application to rescind?

MR. ERNEST CARROLL: They have not been provided notice with respect to this Application to rescind.

Basically, since this was an Application arising out of the original administrative application, some of these matters were handled by other persons in my firm. They made the decision not to. I'm not sure that that is correct or not.

But quite frankly, I think the posture which we

are going to take and we are going to send out notice, I think, will cure any of those problems and err on the side of, I guess, notice, rather than not err on it.

And so that's something that will allow us -- you know, as I've already indicated with the filing of the new application, we'll give notice of both --

MR. RAND CARROLL: Okay.

MR. ERNEST CARROLL: -- and that way --

MR. RAND CARROLL: So they'll have notice of the next hearing, which will --

MR. ERNEST CARROLL: Absolutely.

MR. RAND CARROLL: -- go over the same issues.

MR. ERNEST CARROLL: We'll go over the same matters.

MR. RAND CARROLL: Okay.

MR. ERNEST CARROLL: And it's just -- In that sense, my thought was to be conservative and err on that, and then we'll see what happens.

MR. RAND CARROLL: Okay.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Bailey, was Bass's original decision to object to the Application; is that correct?

A. Correct.

Q. Okay. And what's your understanding of your

objection letter or why it was rejected or --

A. Our objection letter?

Q. Yeah, to the original application. You filed a letter of objection, and I guess what Mr. Stogner determined was that it was too late, it wasn't within the 20-day --

THE WITNESS: Do you want to answer that or --

MR. ERNEST CARROLL: Mr. Catanach, what -- Apparently there's a lot of uncertainties as to what actually transpired. It was during the Christmas holidays. I think the end of the objection period would have been the 25th or the 26th of December.

A letter was mailed, and the postmark which was on the letter or the envelope that Mr. Stogner had showed that this letter was postmarked well within the time that normally it should have gotten here and an objection should have arrived.

But Santa Fe mails are not always dependable, and I guess at Christmas time it even got more undependable.

MR. RAND CARROLL: We'll take administrative notice of that.

MR. ERNEST CARROLL: There was some -- You know, even all the court systems allow, you know, three days. Well, this was much longer than three days.

And there was some thoughts that there was a fax

notice, but memories were deleted in our fax machine, and we just -- Because of a lot of things we just were unable and without proof.

I will say that the position and the letter that Mr. Carroll wrote, I think, is the correct and legal position with respect to administrative hearings.

The Commission is not obligated to render a decision under these administrative positions, and I think it has the power, in the interest of protection of correlative rights, to -- when it becomes notice and -- and because the time period and the -- was so quickly after the -- there was efforts well within the time frame where we did try to get this as proved by the date stamp, the postmark on the letter, that this Commission should exercise its discretion and allow this protest to go on, because it -- You know, it does an injustice to the administrative, I think, whole thought or concept.

The administrative procedures are there to allow a lessening of the workload of the OCD, and so hopefully we get the more important matters that do need attention to and a decision made because there's contesting powers, allow these things to -- smoothly.

But when something like this occurs, the Commission needs to be very, I think, liberal in allowing contests like this, and -- so that complaints won't be made

and a movement will be made to do away with administrative procedures.

I think that's the risk if you don't allow this kind of matter, and I think the evidence is that we did attempt within the period to render the objection. I don't think there's any prejudice that could come to Mewbourne because of allowing this hearing and allowing us to present the evidence. So...

Frankly, we're in total agreement with the letter that Mr. Carroll wrote, and we have elected to proceed on the basis of those representations made with respect to what we ought to -- our burden of proof.

And I'm fully in agreement with what Mr. Carroll said. Under the circumstances, normally Mewbourne would have had the burden. I think we have the burden, and I think that's only fair. And we -- That's why we've come and have brought our witnesses and are quite willing to accept that burden under the circumstances, and we'll proceed with that letter and the guidelines that Mr. Carroll established for us.

EXAMINER CATANACH: Okay, thank you, Mr. Carroll. I just thought it was helpful to get some of that on the record.

MR. ERNEST CARROLL: That's fine, I appreciate that.

EXAMINER CATANACH: Mr. Carr?

MR. CARR: Mr. Catanach, you know our position is not necessarily in accord with what was stated by Mr. Ernie Carroll.

We are, however, going to try to settle these issues. But you understand that we believe that it is the burden of the person who is objecting to have that objection here. I hope we don't have to argue that at some point later.

THE WITNESS: There's just one other thing I would mention about the administrative application that was filed by Mewbourne, is that we plan to present additional comments about that that shows that according to the map that even they sent in, that an orthodox location could have been drilled to obtain economic results from that lower Morrow sand.

EXAMINER CATANACH: Mr. Carr, did you have any questions of this witness?

MR. CARR: No, I did not.

EXAMINER CATANACH: Okay, I don't have anything. This witness may be excused.

MR. ERNEST CARROLL: Thank you. We would next call Mr. George Hillis.

MR. ERNEST CARROLL: May I proceed?

EXAMINER CATANACH: Yes.

GEORGE A. HILLIS,

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

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. Would you please state your full name, occupation, and place of employment for the record?

A. My name is George A. Hillis. I'm a Division geologist with Bass Enterprises Production Company of Forth Worth, Texas.

Q. Mr. Hillis, have you had an occasion to testify before the Oil Conservation Division of New Mexico and have your credentials as an expert in the field of petroleum geology accepted?

A. Yes, I have.

Q. And, in fact, you have also, as Exhibit Number 3, prepared a short biographical sketch of your education and training, have you not?

A. Yes, I have.

Q. And Mr. Hillis, are you presently familiar with both the Application of Mewbourne for an unorthodox location in Section 35 and Bass and Santa Fe's objection to that unorthodox location?

A. Yes, I am.

Q. Mr. Examiner, I would tender Mr. Hillis as an

expert in the field of petroleum geology.

EXAMINER CATANACH: Mr. Hillis is so qualified.

Q. (By Mr. Ernest Carroll) All right. Mr. Hillis, I apologize but my voice is going to fail fairly quickly if I'm not careful. I'm going to allow you to do most of the talking as we go through your exhibits here, just to keep from being interrupted by that, by my cough.

First of all, you have prepared a number of exhibits for presentation, have you not?

A. Yes, I have.

Q. Let's begin with Exhibit Number 4, and if you would identify the exhibit, explain its significance to the case of both Mewbourne and the opposition of Bass in Santa Fe.

A. Exhibit 4 is a copy of the map that Mewbourne previously forwarded to the NMOCD and also to BEPCo. And its description, it's an isopach map of the lower Morrow gross sand. Mewbourne referred to it as the orange sand.

And essentially, their map shows three west-to-east trending sandbodies and, in addition, shows proposed unorthodox location, 660 from the south, 1980 from the west of Section 35, and also two orthodox locations in the south half of the proration unit.

Q. Now, Mr. Hillis, I note that within the area where the unorthodox Mewbourne location is proposed, they

show it on this isopach as being in an area of 40 foot of sand in the lower Morrow?

A. That's correct.

Q. Have you, in your study of this area, been able to find any data point which supports 40 foot of sand being at anywhere on this map?

A. No, I have not.

Q. Now also, Mr. Hillis, basically how they have shown or drawn this Morrow sand, this channel sand of the Morrow, do you agree with how that is being depicted, and is that depiction consistent with writers who have studied this area in the past?

A. It is not consistent.

Q. Okay. Is there anything else that you would like to point out at this time with respect to Exhibit Number 4?

A. No.

Q. All right. Would you identify what Exhibit Number 5 is and the significance with respect to the issues before this Examiner?

A. Exhibit 5 is also from the Mewbourne Application to the NMOCD and to BEPCo for the unorthodox drill-site recommendation. And on it, I've highlighted several points Mewbourne did make in its description.

One, they acknowledged the lower Morrow sand thereafter to be a channel sand.

They do show that they have -- or claim to have 40 feet of this sand at the proposed unorthodox location.

And they also claim that at the orthodox locations in the south half of the proration unit, which will have 28 to 32 feet of sand, that these would not allow for an economic venture.

Referring back to Exhibit 4, the average thickness of the lower Morrow sand on Mewbourne's map is 18 feet. And as I just testified, there are no wells on that map with over 40 feet of sand.

Interesting to point out also on their map, they do have another unorthodox location in the southwest of the southwest quarter of Section 35, which also would have 40 feet of sand, but they have not pursued that location at this time.

Q. Are there any other matters you'd like to call to the attention of the Examiner with respect to Exhibit 5?

A. The only other comment I would make between Exhibits 4 and 5, if Mewbourne's claim that they need to have over 20 feet of sand is correct, then by their own map only 25 percent, the south quarter of their proration unit, is productive from that sand.

Q. Ad this point, I would also like for you to point out that on Exhibit 4 there appears to be in the northern half of the proration unit for the Mewbourne well, there

appears to be a lower Morrow sand producer. Would you describe that for the Examiner so that it will be in his mind and brought to his attention? Because I think it's very relevant to understand that throughout the rest of your testimony.

A. I don't have the initial production data that well had. I can get it here in a moment. But the well in question in the north half of -- or the northwest quarter of 35, was drilled by Anadarko. It's called the "AA" Number 1, and it did produce approximately one-half of a BCF from the lower Morrow sand. So there already has been production from this reservoir on the proration unit.

Q. All right. Would you next turn to Exhibit 6, and again would you identify what Exhibit 6 is and then discuss its significance with respect to the Mewbourne Application and the opposition presented by Bass and Santa Fe?

A. Exhibit 6 is a production map for both the lower Morrow, which Mewbourne has applied for, and also for another reservoir in this area within the Morrow; we call it the middle Morrow. The production cumulatives are through July of 1996, and the current well deliverability is in the parentheses from July, 1996. The orange color is for the lower Morrow, the yellow color is for the middle Morrow.

Just as we previously testified, on the west half

of 35, as you can see, the lower Morrow did produce close to half of a BCF already from the lower Morrow sand.

And the other thing I'd like to bring out here, there's a large absence of large yellow circles in the subject area of Section 35 or Section 2 at this time. And to Bass, that is a very lucrative reservoir target that we cannot access currently on our own proration unit.

Over to the east, part of the map where the middle Morrow has produced a little bit better controlled development of the channel over there, four of those wells to date have produced 3.3 BCF, plus 34,000 barrels of condensate per well, and they are all still active.

We will show later in our testimony that both Bass's position in the east half of Section 2 and Mewbourne in the west half of 35 do have potential in this middle Morrow reservoir, but to my knowledge Mewbourne did not address this reservoir in their Application.

Q. Is there anything else you'd like to point out to the Examiner's attention with respect to your Exhibit 6?

A. No.

Q. All right. If you would, then, turn to Exhibit Number 7 and again identify what this -- And this is a group of different pages. If you would identify what they are and then discuss its significance with respect to Bass and Santa Fe's application.

A. You might want to also, in addition to Exhibit 7, go back to the Mewbourne map, Exhibit Number 4, and this basically goes back to Mewbourne's claim that 28 feet of sand, which they would encounter at their orthodox location, would be uneconomic.

And we have looked at four of the lower Morrow producers within the area of Mewbourne's map. The location is listed in Exhibit 7 on the left-hand side. All of these have been confined to the lower Morrow reservoir.

The average thickness of the lower Morrow in those four wells, by Mewbourne's map, would be 24.5 feet, and the average expected ultimate recovery from those four wells from the lower Morrow would be 3.05 BCF plus 22.3 thousand barrels of condensate.

In effect, 24.5 feet of sand by Mewbourne would deliver a 3-BCF well which, to me, is clearly economic.

And the rest of Exhibit 7 gives the log attachments for each of those wells, showing the lower Morrow pay.

And we'll get into, perhaps a little bit later in the testimony, each of these logs also show how BEPCo counts the sand thickness for our mapping purposes here of the lower Morrow, versus how we believe Mewbourne, shown on the gamma-ray log on each well, makes their count of the sand. And we'll see that BEPCO's relationship of net sand

count to reservoir porosity development is a lot more in agreement than Mewbourne's.

Q. All right. Is there anything else that you'd like to bring to the attention of the Examiner with respect to Exhibit 7?

A. Just the one point that if -- that there are two orthodox locations in the north half of the southwest quarter of Section 35. Those two locations by Mewbourne would have 28 and 32 feet of sand, and based on the production from wells with less than that thickness it would be around 3 BCF per location there.

Q. All right. If you would, I think you could probably discuss both Exhibits 8 and 9 together. If you would identify each one and then discuss the significance of the matters contained therein.

Q. Okay. Exhibits 8 and 9 are both literature. I have the original books with me if we need to see them.

The first one, Exhibit 8, is authored by A.D. James, and the study that he did was published in the *American Association of Petroleum Geologists Bulletin* in July of 1985 and the year before in the *AAPG Southwest Section Transactions*.

And the main crux of this gentleman's paper is, one, it's from the immediate area that is being contested here, concludes in a regional study that the lower Morrow

sandstone through here has a northwest source and trends to the southeast, generally normally to the Morrow paleoslope.

And page 1046 of the article shows this north-to-south trend through the area. And also the next page, 1047, demonstrates a structure map on top of the lower Morrow, which, with the arrows, is showing the general direction of the channels as they come from the northwest to the southeast.

Exhibit 9 authored by myself back in 1985, and it was published in the *Southwest Section of the AAPG Transactions* at that time. And on the second page I've underlined of that article, our regional study to the south of this area, which also confirms this northwest-to-southeast channel trend for the lower Morrow.

This obviously is industry's and BEPCo's interpretation of the Morrow, and there's obviously a conflict to Mewbourne, who are showing three -- on their map, three west-to-east-trending channel sands.

Q. Anything else with respect to Exhibits 8 and 9?

A. No.

Q. All right. If you would, then, turn to Exhibit 10, and again, if you would identify the exhibit first of all, then explain its significance.

A. Exhibit 10 is a reinterpretation of the well data that Mewbourne have presented. And the red contours are

the reinterpretation made by myself. The base below the black reflects Mewbourne's contours which we entered earlier as Mewbourne's Exhibit Number 4.

What I've done here, I've taken the well data that Mewbourne posted each well and have contoured it by the method accepted by industry and BEPCo on how these channels run regionally across this area.

An interesting point to look at here, the fact, I think I mentioned earlier, that Mewbourne have not pursued an unorthodox location in the southwest of the southwest quarter of 35. By this reinterpretation, that effectively would be a dry hole.

Their orthodox location of the northwest of the southwest quarter and also the orthodox location in the southwest of the northwest would effectively be dry holes.

And the main thing to observe is that the proposed unorthodox location and the nearest orthodox location, 990 feet to the south, would essentially end up with the same thickness of sand at each location.

One thing in common to Mewbourne's interpretation and BEPCo's interpretation of that data is that, at the very best, 50 percent of this proration unit is productive from the lower Morrow. And as we mentioned earlier, the Anadarko well in the north half of the proration unit has already produced close to half of a BCF of the production

from that proration unit.

Q. With respect to the question that Mr. Carroll posed about what might -- Your reinterpretation of data shows that, quite frankly, there may be a location in the west half of Section 2?

A. Very much so. I feel there's a little bit more geological risk on the north, especially the northwest part of Section 2, but there is tremendous potential in the southern part of that proration unit. And we have, at Bass, and continue to, pursue farmout agreements from those operators.

Q. In fact, this has been a continual effort by Bass, even predating the application by Mewbourne?

A. That's correct.

Q. Is there anything else that you'd like to point out with respect to this Exhibit Number 10?

A. The only thing, to touch back on a question to the land testimony on the response from the owners of the west half of 2, it was my understanding that the west half of 2, that was just part of a larger lease that continues south. It's very broken up. I believe Arco is the operator, with around 40 percent, and many other owners. And -- Just the same way, it's very hard to get a response for farmout requests from them. I really could understand why they didn't make an objection originally to the

Mewbourne location.

Q. All right. If you would, then, turn to Exhibit 11, and again, if you would identify the exhibit and then discuss its significance.

A. Exhibit 11 is a structure map on top of the lower Morrow. It's the base of the middle Morrow massive shale. It's approximately a level in the wellbore 60 feet above this lower Morrow reservoir. It depicts very well the structure of that lower Morrow reservoir.

Several critical things to point out here. We're showing in the east half of our Section 2, the Bass Turkey Track State Com 2 Number 1 is essentially in a fault wedge through here.

The Merchant Number 2, drilled by Bass in the west half of Number 1, is also, we'll see later, towards the edge of the lower Morrow channel and has a permeability barrier to the faulting just to the west of it. That actually is the well that made us go back and question what was going on here.

Originally we drilled the 2 Number 1 with Santa Fe. We had 30-some feet of reservoir conditions. The well came on around 10 million a day, best well in the area ever. We were all very excited.

And we drilled the offset, the Merchant Number 2. The sand thinned, but we still have a correlative sand to

our 2 Number 1 well. We dropped the van gun, a natural completion, for over 2 million a day. We shut the well in. We came back a week later to hook up the gas line and run a four-point, and the well literally depleted on the four-point.

That made us to go back and realize this Morrow reservoir was segmented. We went back and QC'd some seismic in this area. There is a Devonian fault running in a general west -- north-to-south direction through here. And it's our interpretation that that is a weak point which has been reactivated post-deposition of the Morrow.

As this was all going on, we realized that our 10-million-a-day well, which we felt was going to be like a 6 or 7 BCF gas well in the lower Morrow, started to reduce from that 10 million. It's currently making 1.5 to 2 million a day. It looks like it's going to be a 2- to 2.5-BCF well.

In the engineering testimony we will see that when we drilled both the 2-1 and the Merchant Number 2, both these wells came in with virgin pressure.

However, other wells in this lower Morrow channel have reflected drainage. Specifically, we'll see in the engineering testimony, to the south and the east half of Section 11, that well came in with over 1000 pounds with just bottomhole pressure when it was drilled two or three

years ago. And a well in the northwest quarter of Section 3 of 19 South, 28 East, also came in with reduced bottomhole pressure.

The fact that our wells come in with the virgin pressure confirms that we had a fault problem here.

We also were able to align the fault going south with wells in Section 12. The well in Section 12 of the northeast has a subsea of minus 7611. The lower Morrow sand in that well is wet. Yet in the southwest quarter of Section 12, downdip, and the north half of Section 13, again downdip from the wet well in the lower Morrow, those are both gas producers from the lower Morrow, which further confirms the permeability barrier evident in the area.

This permeability barrier will also affect the middle Morrow. We currently do not have any middle Morrow reservoir we can access in our Turkey Track 2 Number 1 well. We will see from our mapping on the middle Morrow that there is a large amount of gas reserves within our proration unit from the middle Morrow, as well as the lower Morrow, which we just cannot access. Right now we can only access approximately 25 percent of the reserves in the lower Morrow on our proration unit.

Q. All right. Is there anything else that you'd like to discuss with respect to Exhibit 11?

A. No.

Q. All right. If you will then identify what Exhibit 12 is and discuss its significance.

A. Exhibit 12 actually folds out. This is one of our methods for refining our mapping methods to determine which -- where the channels are, which may contain the lower Morrow reservoir. And the log on the right-hand side of the exhibit, the number 11, shows that isopach interval from the top of the lower Morrow to a Barnett marker and shows the lower Morrow reservoir within that interval.

On the left-hand side, that's a contour or isopach of that interval, and this reflects for us the channels which we'll have an opportunity to see lower Morrow sand being deposited.

And as you can see, the east half of Section 2, Bass's proration unit, is sitting right in the heart of that channel, as is the east half of Section 35, whereas the west half of 35 shows to be on the western side of the channel. And we find, as we shall see later in other isopachs, that we can confirm the age of the reservoir being in the west half of Section 35.

Q. All right. Anything else with respect to Exhibit 12?

A. No.

Q. All right. If you would then turn to Exhibit 13, identify what this exhibit is and then discuss its

significance.

A. Exhibit 13 is a crossplot of porosity thickness over 3 1/2 percent, plotted against net sand thickness in feet. And I mentioned earlier from the log examples were -- how Bass using a normalized gamma ray made a sand count to map the sand in the lower Morrow, whereas Mewbourne used what appears to be an unnormalized and a far higher gamma ray count, which includes a lot of rock which has got zero porosity.

BEPCO's numbers are shown in the green dots here to show the relationship we have between how we map the net sand of the lower Morrow and reservoir conditions.

Mewbourne's data for the study area are shown with the X's, and it shows a lot of a wide scatter through there.

So I do believe that the method that we map our net clean sand in the lower Morrow is a lot more illustrative of where the sands are running.

Q. All right, anything further with respect to that exhibit?

A. No.

Q. All right. If you would again turn to Exhibit 14, identify that exhibit and discuss its significance.

A. Okay. Exhibit 14 is an isopach map of the net clean sand for this lower Morrow, and it depicts the lower

Morrow reservoir channels that I've mentioned from that previous isopach.

These channels, as we mentioned before, conform to industry's interpretation and mapping methods, documented in the literature, for the lower Morrow reservoir through this area, the north-to-south, northwest-to-southeast regional trends.

The one thing this also shows is that the west half of 32 is on the edge of this lower Morrow channel. And by my interpretation, 25-percent-plus is only productive from the lower Morrow.

It also shows that Mewbourne's proposed unorthodox location, the sand thickness there will be very similar to the sand thickness they would encounter at the nearest orthodox location, located 990 feet to the north.

It also shows that their other two remaining orthodox locations would have no sand reservoir development. And although I did not mark it on here, the other unorthodox location on the southwest quarter of Section 35, which by Mewbourne would have 40 feet of sand, would also be effectively a dry hole if they drilled it.

It also shows what I touched on with the structure map. There is a lot of this reservoir within the east half of Section 2 and also where we pursuing farmouts in the west half of Section 2, especially in the southern

part of that proration unit.

And as I mentioned earlier, because of the fault segmentation, keeping our reserves, 75 percent of our proration unit we cannot access currently wit the existing wellbore. So thereby, without an additional wellbore, if Mewbourne were granted their location, we would suffer a lot of drainage, unless we had a second borehole to access those reserves at the same time.

Q. Anything further with this exhibit?

A. No.

Q. All right. If you would turn to Exhibit 15 and again identify it and then discuss its significance.

A. Exhibit 15 is to quantify the lower Morrow reservoir for engineering studies and also help pick the sweet spots in the sand also. And the map on the left-hand side is an isopach of the porosity H within the lower Morrow reservoir. And the map on the right is the thickness over 3.5-percent porosity in the lower Morrow reservoir.

And these basically demonstrate what we just looked at on the previous exhibit of the net clean sand isopach, that the west half of 35 is very poor development of the lower Morrow reservoir, and the east half of Section 2 has very good potential which, as I testified, we cannot access approximately 75 percent of at this time.

Q. Anything else with respect to Exhibit 15?

A. No.

Q. All right. If you would identify Exhibit 16 and discuss its significance.

A. Exhibit 16 is a north-south cross-section. The index map on the right-hand side is taken from the previous exhibit, the lower Morrow sand porosity H map. The well log at the A prime end on the right-hand side is the BEPCO Turkey Track 2 State Com Number 1 well in the east half of Section 2 which we've been discussing.

As we go northward we show both the proposed unorthodox location of Mewbourne's and the orthodox location they will have 990 feet to the north. This shows, as we have testified, both these locations would essentially have the same thickness of lower Morrow reservoir.

And the well we mentioned earlier on the testimony, existing already in the proration unit in the northwest quarter of Section 35, the Anadarko "AA" State Number 1, we show where that reservoir is starting to thin out.

And of interest, the log at the extreme left-hand side of this cross-section is also from the Anadarko "AA" State Number 1. This was the original hole that was drilled, and the log taken of that at the location of 1980

feet from the north and west line. And if you look at the lower Morrow in that wellbore, it's essentially gone. There's one foot with around 5- or 6-percent porosity.

What happened in this well, after logging this well and trying to set pipe, the pipe fell and corkscrewed on Anadarko and they had to sidetrack it. And then they ran the open-hole logs as we've shown them here in the cross-section of the sidetrack.

And the sidetrack is actually -- The bottomhole is 128.5 feet south and 60.5 feet east of the original wellbore.

But what this serves to show primarily is the fact that our method of describing the lower Morrow reservoir through here is backed up by actual log data. We have tested by the -- very little of -- The west half of 35 is productive from the lower Morrow, and we have two wellbores in this northwest quarter that essentially show this, the lower Morrow is pinching out in Section 35, in the west side.

This is a stratigraphic cross-section. So the continuity of the sand from the Turkey Track 2 Number 1 to the north -- It's not structural, I've just kind of put the illustration of where our permeability barrier is there due to reactivation of that deep-seated fault or slumping associated with the reactivation enough to displace the

sand and create the barrier.

Q. Anything else with respect to Exhibit 16?

A. No.

Q. All right. Would you turn now to your last exhibit, Number 17? Would you identify that and discuss its significance?

A. Exhibit --

Q. Next to the last exhibit, excuse me.

A. Exhibit 17 is an isopach map of the net clean sand in the middle Morrow reservoir. And as I testified earlier, to my knowledge Mewbourne have not addressed this reservoir. But as you can see from the logs on this exhibit, which are taken from the middle Morrow channel through this area, this is a very lucrative target in the area.

And if we refer back to the production map on Exhibit -- let's see -- Exhibit Number 6, the middle Morrow reservoir in the next channel over to the east is averaging over 3 BCF and over 30,000 barrels of condensate per well from wells which are still active.

This is a reservoir we do not have currently in our wellbore in the 2 Number 1. We do not have enough reservoir development. And even if we had, the permeability barrier due to the reactivation of the deeper faulting would prevent us accessing the majority of the

reserves anyway. So as of now we have no borehole in our proration unit to access these reserves.

You will see that Mewbourne's unorthodox location and their orthodox one 990 feet to the north, either of these locations will access these reserves. The middle Morrow should be essentially the same thickness, each location. Of course, the closer they are to the southeast of the proration unit, the more severe the drainage would be from the proration unit of BEPCo's.

Q. All right, is there anything else that you would like to point out to the Examiner with respect to Exhibit 17?

A. No.

Q. All right. Now, turning to your last exhibit, which appears to be a summary of the points that you have made with your previous exhibits, would you confirm that and then go through and discuss Exhibit 18 for the Examiner?

A. Exhibit 18, you're correct, is a geological summary of the points I've attempted to make here today. I'll just read through these quickly.

Number one, Mewbourne's claim in their Application that 28 feet of lower Morrow reservoir or sand would be uneconomic is incorrect. We have shown that 24.5 feet of that sand in wells from their own mapped area have

averaged 3.05 BCF. And also by Mewbourne's map they have two orthodox locations with 28 and 32 feet of lower Morrow sand, and also an additional unorthodox location with 40 feet of sand in the southwest of the southwest quarter that they have never pursued.

That really leads to point number two. That location will essentially have the same sand thickness as they will have with this proposed unorthodox location. And from BEPCo's and Santa Fe's point of view, if Mewbourne wanted to take the other unorthodox location, we have no problem with that. Personally, I believe they'll drill a dry hole.

The third point, Mewbourne's interpretation of this lower Morrow sand, these trends going from west to east, is very much inconsistent with both BEPCo's and industry's interpretation of the area.

Point four, BEPCo, we've been able to take their own well data, Mewbourne's well data, recontour it and show it to be in accordance with the regional trend recognized by industry of BEPCo.

We have found a lot of problems in their method of mapping the sand. Their thickness per well is not representative of the porosity distribution in the reservoir.

By their own interpretation, they only allow for

25 percent of their proration unit to be commercial in the lower Morrow.

By our mapping, Mewbourne would encounter a similar reservoir thickness at both the unorthodox locations they're applying for as they would at the orthodox location 990 feet to the north.

Mewbourne in their Application have not addressed the middle Morrow reservoir, which truly, really, has probably more significant reservoir potential than the lower Morrow, because the lower Morrow, we'll see later, is being affected by drainage, the pressure is going down in the area, whereas the middle Morrow channel over here has not been fully exploited yet.

And definitely, point nine, a ruling in favor of Mewbourne would result in a severe loss of reserves, which we'll quantify in our engineering testimony, to BEPCo and Santa Fe from both the middle Morrow and lower Morrow. And as I've pointed out and I want to stress, we cannot currently access the middle Morrow reserves on our proration unit, and we cannot access 75 percent of the lower Morrow reserves on our proration unit without an additional borehole.

Q. All right, and then -- I take it that, based on your testimony, you feel that a proper interpretation with geological data available to one studying this area, that

Mewbourne has an orthodox location which would allow it to drain the reserves that are in place under its west half of Section 35?

A. Even if Mewbourne would go back to their orthodox location to the north of the proposed one, they will still be draining reserves from off their proration unit.

Q. Do you feel that if the Commission required them to drill their well at an orthodox location, that their correlative rights would not be impaired?

A. Yes.

Q. Okay. Now, with respect to granting of an unorthodox location, do you feel that such a grant would, in fact, impair the correlative rights of Bass and Santa Fe?

A. Definitely so.

Q. And with respect to the issue which we have advised the Commission that we plan to bring before it and consolidate with this, do you feel it is in the interest of correlative rights and the prevention of waste to allow or authorize an additional well to be drilled out on the east half of Section 2 with simultaneous dedication of that well?

A. Yes, I do.

MR. ERNEST CARROLL: All right. Mr. Examiner, at this time I would move admission of Exhibits 3 through 18.

EXAMINER CATANACH: Exhibits 3 through 18 will be admitted as evidence.

MR. ERNEST CARROLL: And I have no further questions of this witness.

EXAMINER CATANACH: Mr. Carr?

MR. CARR: Mr. Catanach, I'm here today to listen. We obviously have different geological presentations. If there is a second phase in this case, I will address these issues at that time.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Hillis, is there any geologic evidence that shows the existence of that fault within the east half of Section 2?

A. Yeah, let me go back to my structure map. One --

MR. ERNEST CARROLL: Could you identify --

THE WITNESS: Okay.

MR. ERNEST CARROLL: -- identify the exhibit.

THE WITNESS: I'm looking at Exhibit 11, which is the structure map on top of the lower Morrow.

Q. (By Examiner Catanach) Okay.

A. And one thing I did not mention during my testimony, we do see a fault cut, geological evidence, in the Merchant Number 2 wellbore, at the very top of the middle Morrow clastics section. There is a -- We go

downthrown, essentially, in that wellbore.

And in addition to that, the other evidence, if you recall, was the fact that both the Merchant Number 2 in the west half of 1, and the Turkey Track Number 1 in the east half of 2 both come in with virgin pressure in this reservoir, where -- which is around 4600 pounds -- whereas if we were in true communication with the lower Morrow reservoir, we'll see in our engineering testimony we should have been around 3000, 3200 pounds.

It's kind of one of those deals where you're almost happier to have the 3200 because you know you've got a straw in the major continuous reservoir, versus the virgin pressures.

We were -- Believe me, the Merchant Number 2 took us for a real shock, because the sand looked good in it, the initial flow rate was good, we went to hook on the pipeline and, I mean, it depleted.

And the other thing I mentioned in my testimony, when you look at the water saturations for the wells in Section 12, there's two wells, the northeast quarter and the southwest quarter and the well in the north half of Section 13 of 19 South, 28 East.

The most structurally highest well of those three wells in the northeast quarter of 12 is wet in the lower Morrow reservoir. The downdip wells on the other side of

the permeability barrier or the faulting are productive from the lower Morrow reservoir. That, to me, is -- Three things, as well as the seismic we have looked at through here, recognizing the deeper faulting.

If you notice, east of this fault there's a regional trending -- you know, north-northwest/south-southeast nose on the lower Morrow, and that's quite a prominent regional feature through there, and it looks like that has been reactivated after the Morrow deposition, or just the reactivation has caused a slumping to break up the channel into segments along the edge of it and give us these long, linear-type drainage areas which we're seeing in the Turkey Track 2 Number 1 well.

Q. How confident are you as to the fault location within that east half of Section 2?

A. I feel pretty confident about it because, one, at the southern end of it, because of the water saturation changes that controls the south end of it, the Merchant Number 2 -- I mean, we drilled into something that's the size of this room, I guess. So we know we're very close to the barrier at that point.

The Turkey Track 2 Number 1 came down very quickly from the 10 million a day. As I say, it's now around 1.5 to 2. We recognize a linear flow from it, so we're very close to the barrier in that also.

And then purely also, just from the subsurface control in the lower Morrow, just general contouring, it's pretty awkward-looking if you try to contour this data without recognizing the fact that you have this slumping or reactivation of the fault.

And it dies out pretty quickly to the north, in my opinion. That's where I'd have the least control, over the east half of Section 35.

Q. You don't believe it goes much further than that?

A. No, I don't, because the lower Morrow production from Section 26 north of there, and I believe also from the east half of 35, those wells and that production from the area has been responsible for a lot of the reservoir pressure drawdown to the south. So we drilled a well in the west part of our proration unit where we currently cannot access those reserves. We would see a pressure drawdown on the lower Morrow due to that production from the north.

Q. So within the east half of Section 2, I mean, this fault affects lower Morrow and middle Morrow production?

A. It will affect both, because I wouldn't expect that reactivation to have occurred until long after the Morrow had been deposited, got cemented up, and it's most probably a reactivation of the movement in probably early

Wolfcamp time.

Q. Is it possible that this channel sand may be oriented the way that Mewbourne has it?

A. I don't see any way that it can be. And really one part of the testimony hasn't come out, because it's in the engineering part.

You'll see how all these wells on Mewbourne's map or our production map on the lower Morrow, the orange dots on Exhibit Number 6, we'll see from reservoir pressures that all these wells, with the exception of the two Bass wells, are in reservoir communication by pressure data.

So in that context, if you had three west-to-east-trending sandbodies in there, I mean, they couldn't be in pressure communication if they were in separate pods. It's definitely a channel that links, going north to south.

And if I really believed Mewbourne's map and I was Mewbourne, I -- to avoid any controversy, I probably would have gone over to the southwest of the southwest quarter of their section where they've got 40 feet of sand, and -- knowing that we wouldn't have bothered them. With a huge drainage area, because that's -- Going back to Exhibit 4, Mewbourne's map, a location in the southwest of the southwest with 40 feet of sand is the best distance away from the existing producers, and thus the better chance of minimizing the reservoir drainage that has occurred in the

reservoir.

Q. It's your opinion that Mewbourne's well at its proposed location would drain reserves from the east half that you couldn't access currently?

A. That's correct.

Q. In both the lower and --

A. In both the and the middle Morrow, yes, sir.

Q. Is it possible, in your opinion, that both companies can drill a standard location within their proration units and be successful?

A. Yes, it is. Mewbourne can access both these reservoirs at the orthodox location, 990 feet north of their proposed unorthodox location, and we can also access it in the east half of 2, unorthodox location also.

EXAMINATION

BY MR. RAND CARROLL:

Q. Mr. Hillis, on Exhibit Number 17 Bass has listed their proposed unorthodox location. It looks like a 660 from the west and 660 from the north?

A. That's correct. On Exhibit 17, the isopach of the middle Morrow, this is in response to one of the other options. In other words, if the proposed unorthodox location of Mewbourne's was to be granted and that well was to be drilled, we would seek the simultaneous dedication and we'd also seek to add an unorthodox location.

Q. Okay. And you just testified that both -- you could drill economic wells in orthodox locations also?

A. Absolutely.

Q. Okay.

A. I just feel that from where the two proration units meet, that if we're both an equitable distance away from where those two meet, that's fine. And you can do that either with these two unorthodox locations, or you can do it with two orthodox locations.

EXAMINER CATANACH: I have nothing further.

Anything further?

MR. ERNEST CARROLL: We'd next call Terry Payne.

TERRY D. PAYNE,

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

DIRECT EXAMINATION

BY MR. ERNEST CARROLL:

Q. Mr. Payne, would you state your name, permanent address and place of employment for the record?

A. Okay, my full name is Terry Dean Payne. My place of employment is with Platt, Sparks and Associates in Austin, Texas, and that is where I do reside, is Austin, Texas.

Q. All right, now what do you profession do you -- What profession have you got training in?

A. Petroleum engineering.

Q. All right.

A. I have a bachelor of science degree in petroleum engineering.

Q. And have you had an occasion to testify before the Oil Conservation Division of New Mexico and have your credentials with respect to petroleum engineering accepted?

A. Yes, sir, I have, and they were.

Q. Mr. Payne, are you familiar with the Applications that are now being heard by this Examiner?

A. Yes, sir, I am.

Q. And you have prepared Exhibit Number 19, which is actually a -- composed of ten subparts, exhibits, for this hearing, have you not?

A. Yes, sir, I have.

MR. ERNEST CARROLL: Mr. Examiner, I would tender Mr. Payne as an expert in the field of petroleum engineering.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Ernest Carroll) All right, Mr. Payne, would you please turn to Exhibit Number 19, and let's begin first with -- There's apparently an index at the front, and if you would describe that for the record so that the Examiner will have in the record how you intend to use this exhibit.

A. Okay. Basically, the first three exhibits, the reservoir data sheets and volumetric calculations and payout reserves, are designed to show that Mewbourne can produce all the recoverable reserves on their tract and do it economically, either with their geologic interpretation or with the Bass geologic interpretation.

Exhibits 4 through 7 will show the impact of the proposed well on Bass's tract, both from an orthodox location -- it will impact it there -- and the additional impact from an unorthodox location.

And Exhibits 8 through 10 basically are conclusions from the study and what we feel is the best solution to the problem.

Q. All right. If you would, then, let's turn to the matters behind Tab 1, and if you would identify for the record what this information is and then discuss its significance.

A. Okay. Behind Tab Number 1 we have a reservoir data sheet that does list some of the pertinent reservoir parameters. The depth is approximately 11,000 feet, and it's important to note that the initial reservoir pressure was approximately 4600 pounds. Temperature and gas properties are also listed.

And the original gas in place in our study area, which is basically the channel that was seen on Mr.

Hillis's previous exhibits, contains approximately 45 BCF of original gas in place.

The lines down at the bottom indicate that that area has been produced by 11 wells, and to date we have cumulative production of about 15 BCF. So we've recovered about a third of the gas in place to date.

Q. Now, the reserves of 45 BCF that you show here, would that be in the lower Morrow only or be a combination of the middle and lower?

A. That's lower Morrow only.

Q. All right.

A. That's an important distinction.

Q. Now, in your opinion, does a significant amount of this unproduced reserves exist on Bass acreage in Section 2?

A. Yes, it does. In fact, the west half -- east half of Section 2, Bass's acreage, originally had over 8 BCF in place. So that is a significant portion of that total.

Q. Is there anything else that you'd like to point out to the Examiner's attention with respect to the matters under Tab 1?

A. I think that's it.

Q. All right. Let's go to Tab 2, and again there's several pages here. If you would identify for the record

each page as you discuss it and then discuss the significance?

A. Okay, basically I'm going to be referring back to four of Mr. Hillis's exhibits that will be helpful to have in front of us, and those are Exhibits 4, which was the original Mewbourne map -- and I'll just list them all. It will be 4, 7, 14 and 17.

And you may already have it. The one that this exhibit pertains to is Exhibit 14, which is the Bass interpretation of the geology.

And basically what we're showing here is for the west half of Section 35, which currently has the Turkey Track 2 Number 1 producing on it, and using the Bass geologic interpretation, as shown up in the red highlighted portion of Tab 2, we're showing the gas in place originally on the west half of Section 35 -- I'm sorry, I said the Turkey Track 2; I actually meant the "AA" Number 1. So it's Mewbourne's operated west half of Section 35.

With the Bass geology, if you look down at the bottom of this first page here, we have original gas in place of 1.47 BCF. That's the fourth line from the bottom. Again, that's using the Bass geology, the initial reservoir pressure and other information that came from the reservoir data sheet in calculating from a volumetric standpoint the original gas in place.

Of that 1.47, a little over 1.1 is recoverable. As we mentioned before, the "AA" Number 1 has already produced from that proration unit, and it has produced approximately .44 BCF. So the remaining recoverable gas on the west half of Section 35 is .7 BCF, seven-tenths of a BCF. And again, that's lower Morrow only, using the Bass geologic interpretation.

EXAMINER CATANACH: This would be for the west half of Section 35?

THE WITNESS: That's correct, west half of 35.

So there's .7 of a BCF in the remaining recoverable.

If we turn to the page just behind that -- and this exhibit relates back to Mr. Hillis's Exhibit 4, which is the Mewbourne interpretation of the geology -- again, we're still looking at the west half of Section 35, and up in the red-highlighted section at the top of the page it does specify Mewbourne geology, west half of Section 35.

And we go through the same exercise here, but obviously their volumetric interpretation is much different. Their original gas in place is 4.63 BCF. The original recoverable gas is just over 3.5. Again, the "AA" Number 1 produced about .4 BCF.

So their remaining recoverable gas on their tract, using their geology, is approximately 3 BCF.

Now, again, if we look back at Mr. Hillis's Exhibit 7, that referred to the four closest lower Morrow producers to their proposed location. He showed that with their interpretation of 24.5 feet, that those wells could be expected to produce 3 BCF.

So that's from an orthodox location; a well that achieves the sand thickness that Mewbourne's map has at the orthodox location could be expected to produce about 3 BCF, and that is almost exactly what is recoverable on their tract.

So that is the basis for our conclusion that at an orthodox location, Mewbourne's well could be expected to produce all the recoverable reserves on their tract. They don't need the unorthodox location to afford them the opportunity to recover those reserves.

Q. (By Mr. Ernest Carroll) So Mr. Payne, what you're saying is, this last column on the second page of Tab 2 where it says "Remaining Recoverable Gas, 3.13 BCF", you're saying and telling the Examiner that a well at an orthodox location on the west half of Section 35 would recover those reserves?

A. That's correct. And that's based on the production from the analogy wells that had similar sand thicknesses. We have seen that those wells are going to recover in excess of 3 BCF, and that is approximately what

is remaining recoverable on Mewbourne's tract. So at an orthodox location they would be able to recover those reserves.

The impact, of course, of moving to an unorthodox location is simply to drain more reserves off of someone else's tract, not just -- It will not help them recover the reserves on their tract; it will just increase the drainage.

Q. All right. So in your opinion, moving to an unorthodox location will not aid them in obtaining reserves that are in place under the west half of Section 35?

A. That's correct. In fact, it would be a less efficient place to recover those reserves from. The best place would be an orthodox location to recover the reserves on their tract.

Q. Based on the geology that Mr. Hillis presented earlier, showing where the actual reservoir lies on Section 35?

A. That's correct.

Q. Okay. If you would discuss, then, the third page behind Tab 2.

A. Okay, the third page, we shift from the lower Morrow up to the middle Morrow, and again, that's displayed in the red-highlighted section up at the top of the page, "Turkey Track North (Morrow) - Middle".

And again, it's important to recognize that this zone can be produced concurrently with the lower Morrow in the proposed Mewbourne well. They can access both zones simultaneously. We cannot do that in our Turkey Track well.

So these reserves here -- and we are focusing on the east half of Section 2, which is the Bass-operated tract, east half of Section 2, and we show here -- and if we need to, this refers back to Mr. Hillis's Exhibit 17, his isopach map of the middle Morrow.

It is summarized down at the bottom of the page that on the Bass-operated tract we have approximately 2.9 BCF of gas originally in place. Of that gas, 2.2 is recoverable. In dollar terms, that's approximately $4.5 million. So there's a significant quantity of recoverable gas on that tract that we cannot access with our well, the Turkey Track 2 Number 1.

Any well that's drilled, either orthodox or unorthodox, in the Mewbourne tract is going to be able to access those reserves. And it will without a doubt drain them from our tract.

Q. So the purpose of this page under Tab 2 was to show basically the value of the gas in place, the amount of recoverable gas, on Bass's Section -- east half of Section 2, which it currently is unable to access?

A. That's correct. And I apologize, these exhibits should be labeled more clearly. This one should definitely have east half of Section 2 on the top. They're not as clear as they should be. But this is the Bass-operated tract.

I did not prepare an exhibit for the Mewbourne-operated west half of Section 2. However, using Mr. Hillis's map, I did make some estimates last night of the gas in place on their tract and what would be recoverable.

Q. And what are they?

A. Well, I'd like to offer those numbers. The original gas in place on Mewbourne's west half of Section 35 is about 1.2 BCF of gas in place. Of that, about .9 of a BCF would be recoverable. And as he shows on his Exhibit 17, either point, orthodox or unorthodox, would give him approximately the same sand thickness.

So they would be capable of recovering those reserves from an orthodox location.

Q. If you would, then -- Is there anything further that you need to discuss with respect to the matters under Tab 2?

A. I think that's it. We might just summarize them again, that using Bass's interpretation, in the lower Morrow, on Mewbourne's tract there's .7 of a BCF remaining recoverable, in the middle Morrow there's .9 of a BCF

remaining recoverable.

So in the two zones combined, which they can produce them simultaneously, there's 1.6 BCF of recoverable reserves on their tract. And as we'll show with our next tab, that's definitely a commercial well. And those reserves can be recovered from an orthodox location.

Q. Okay. If you would, then, describe the matters under Tab 3.

A. Okay. Tab 3 is a very simple calculation showing what magnitude of reserves are required to pay these wells out. It's an undiscounted look at a simple payout. It assumes, number one, that an operator would like to have a three-year payout for a well like this, and so we're considering three years of operating costs.

The completion -- drilling and completion cost is $695,000, and that's the actual costs for Bass's Turkey Track 2 Number 1 well that was drilled in December of 1995, so we feel that those are good representative costs, operating costs of $1000 a month. We put in some severance and *ad valorem* taxes, the net revenue interest, and we've assumed a gas price of $1.90.

And using those parameters, we have payout reserves of 494 million cubic feet. So approximately half a BCF is what's required to pay these wells out.

Obviously with 1.6 BCF recoverable on Mewbourne's

tract, that's three times that volume, and that's certainly a commercial venture, particularly considering the high initial rate that these wells come in at. They're capable of paying out very quickly.

Q. Okay. Would you now discuss the matters under Tab 4?

A. Okay. Again, Tabs 1 through 3 were designed to show that Mewbourne can recover their reserves from an orthodox location. We've defined what the recoverable reserves were and showed you could do that.

What we were concerned about at this point is, what is the impact of moving their well to an unorthodox location on the Bass tract?

To do that, we set up a computer simulation model of the Turkey Track North Morrow field area. Again, if we look at Mr. Hillis's Exhibit 14, it will help us understand the area that we have chosen to simulate.

And we have developed a model that covers a ten-square-mile area, and it starts to the northwest, up in Section 27, and goes over and covers the west half -- or covers all of 26 and the west half of 25. It basically covers the channel on the west half of Mr. Hillis's exhibit, his Exhibit 14. It comes straight north and south, all the way to the bottom of the page, so it comes all the way down to Section 10 in the southwest and over to

the west half of Section. So that's how we get our ten-square-mile area, is eight complete sections and then four half sections.

It's a 10-by-16-by 1 grid, so each of those grids are 40-acre squares. We have considered all 11 producers in that study area. Our net thickness comes from the net pay map that you see here. Our porosity and water saturation comes from the log analysis that we did for each of those wells.

Initial pressure is 4600 pounds, as it was on the reservoir data sheet, and we see the gravity and temperature, and it did initialize with 45 BCF, which is what we got from the volumetrics.

That area was chosen because we basically feel like the channel on the west half of the page is at least somewhat isolated from the channel on the east side. There are a number of wells in between there that have zero in terms of the net pay, and it definitely thins down to an area that would probably not be very permeable at best. So we feel like describing just the west half of that channel at least describes our situation on Sections 2 and 35.

And in summary we gave the wells in the simulation model, the actual producing rates, historical producing rates, as a target. We were looking to withdraw the proper amount of gas from the proper points in the

reservoir at the proper time, and we also had the initial reservoir pressures for each of those wells.

And that was our primary match criteria, was making sure that when a well was drilled into the reservoir with a measured initial pressure, that the model was reflecting that pressure at that point in time. We don't have any reliable buildup pressures taken subsequent to that. The pressure data is just not available.

But we do have 11 wells drilled into this area, spread out through time. And as you'll see in a minute, we've got an excellent match with each of those pressures when the wells came on.

A question was asked earlier about, did we have any confidence in the Mewbourne model? We have also set up a model to try to use Mewbourne's map, and you cannot match any of the initial reservoir pressures. All of the pressures in the model are too high when the wells come on. They -- The measured pressures are always lower than the model pressure, which indicates that there's too much gas in the model.

And as you can see from Mewbourne's map, their thicknesses are always much higher than the Bass-interpreted thicknesses, and it results in about 80 BCF of gas in place, is what it results in, and you just cannot achieve a pressure match with that much gas in place.

Q. All right. Why don't you now discuss what each of the pages are behind this data sheet that we've just been discussing behind Tab 4?

A. Okay. Tab 4 also has a second page in it that's important. It does show the initial reservoir pressures that were measured for all of the wells in this channel area that we're looking at. And as you can see, the initial wells that were drilled in approximately 1978 to 1979 came in with pressures that were close to an initial reservoir pressure of 4600 pounds.

Since that time, there have been six additional wells drilled in the channel, and all of them have come in severely underpressured, some of them as much as 1700 pounds. The exception -- And they have been drilled, really, almost over the last 20 years.

The exception to that rule are the two wells identified up on the top of the exhibit. That's the Turkey Track 2 Number 1 and the Merchant State Number 2, the two Bass wells that came in at virgin pressure. So that was an indicator to us that those wells were separate from the main channel body. And combined with Mr. Hillis's geologic interpretation and the well performance certainly confirmed that those wells were separate.

Q. All right. Would you now turn to Tab Number 5 and explain what the sheets are that we find there?

A. Okay. Behind Tab Number 5 we have the simulation history match and projections for ultimate recovery for each of the wells, and I'll just basically explain what we're showing on each of these plots.

On the left Y axis we're showing monthly gas rate, and that will correspond to the actual producing rates, and it will also correspond to the model predicted rates.

On the right-hand Y axis we're showing reservoir pressure.

And then both of those are plotted versus time.

So the solid red curve that you see is the actual well producing rate with time, and the blue dot is the model predicted producing rate with time. And as you can see -- Well, you'll see on all of the wells, there's a very good agreement on those in terms of a rate match.

The green square is the actual reservoir pressure that was measured in the well at the time of completion. So that's a known pressure point, that's what was actually measured in that well.

And then the pink X's are the reservoir pressure in the model at the point where the well is located, with time. And what we can see is that for the first well here, the Turkey Track Com Number 1, we have an excellent match in terms of the rate history.

And we also matched the reservoir pressure right on in terms of when the well first came on production. So the measured reservoir pressure matched exactly with the model prediction of reservoir pressure.

Now, this well was shut in in about 1986, so there's no projection or future reserves for this well. It was just -- did all it could do in about seven or eight years.

But if we do go to the next page -- and we won't spend as much time on it, but this well that -- the 2985 Number 1 is an active well, and we show on this graph the projection of future production for that well. And those are the blue dots that continue on out through history.

I should also point out here that we have another very good agreement in terms of the initial reservoir pressure, which came in at about 3500 pounds, significantly underpressured, 1100 pounds below initial, but we have matched it almost exactly in the model.

So the model pressure at the location of this wellbore agreed almost exactly with the pressure the well came in at.

And if we continue on through these -- we can just kind of flip through them pretty quickly -- the BW Com Number 1, again, reservoir pressure down at about 3100 pounds, 1500 pounds of depletion. But our model pressure

at that point in time at the location was exactly that pressure.

The State "AA" Number 1, we have a very good agreement again on that pressure in that well. That's the well that made about half a BCF already from the Mewbourne proration unit. It made that rate very quickly.

The State "AC" Com, again we have a very good agreement on pressure.

The next well in the booklet is our Merchant State Number 2 well, and again, when we -- when trying to describe the reservoir to begin with, we were not initially thinking that the well was in an isolated compartment, and we ran it out with the well connected to the reservoir. And sure enough, the model predicted that this well should have about 3200 pounds.

So if this well had been connected to the main channel, it would have come in severely depleted, just like all the other wells did. But since it came in with a pressure of right at 4600 pounds, combined with the fact that it depleted so quickly, we do feel like that well is definitely isolated from the main channel sand.

And once we got the fault interpretation incorporated into the model, it naturally predicted that that well is just not connected to the production that has occurred in the channel.

The same thing is true for the next well, the Turkey Track Number 2. This is the Bass-operated well on Section 2. Again, if this well were connected to the main reservoir body, we would have expected to see about 3200 pounds in this well when it was initially completed.

We saw 4600 pounds, so we do know that it is separate from the main channel, and we do know that it's only going to produce probably less than 2.5 BCF. It's just not connected to the main part of the sand. As Mr. Hillis indicated, we would have expected this well to be a multi-BCF well if it were connected to the main channel sand.

The last two or three exhibits are basically -- or pages, are basically the same thing. We show with time pressure depletion, the models matching those pressures very good throughout this channel and throughout time.

Q. All right. Would you now turn to Tab 6?

A. Okay. Tab 6 is a -- what I think of as a reality check. Once we had the model in place, we felt good about our history match because of the pressure matches that we had. But we also wanted to make sure that the model was not predicting some recovery for these wells that was out of line in terms of what the decline curve or well performance was indicating at this time.

So we looked at rate versus time, just regular

decline-curve analysis. We looked at rate-versus-cum plots for decline-curve estimates. And then we tabulate those against the simulation projections.

I should probably point out that -- I think your exhibit at the top of each of those columns says MCF. It should be BCF. If it was MCF we probably wouldn't be here. It's BCF.

And as you go through each of those wells, you can see that there's very good agreement in terms of the simulation results with the typical decline-curve analysis.

Q. All right. Turn to Tab 7.

A. Okay. Tab 7 -- Once we had our history match in place, we had the model built, had it history-matched, we inserted the proposed Mewbourne well to see what the impact of that well was going to be on the wells that currently existed, and this is a summary page of those results.

And again, I should have pointed out to begin with, the simulation dealt with the lower Morrow only, and these numbers also deal with the lower only. You know, the middle just really hasn't been produced that much in the area yet and probably has not had any drainage.

The results here show that on the east half of Section 2, the Bass-operated portion of Section 2, there was 8.3 BCF originally in place.

We think that the Turkey Track Number 2, the

existing producer on that tract, is going to produce 2.5 BCF or less. It's at best going to be a 2.5-BCF well.

The model indicates that with the wells that are currently in place in the channel, without drilling a Mewbourne well but with the wells that are currently there, when they are all depleted there will be 3.2 BCF of gas remaining on the east half of Section 2.

Now, what that indicates is that there is a significant amount of drainage occurring today. The wells that are in the channel right now are drawing the pressure down, there's good communication, and gas is going to be drained off the east half of Section 2 because the Turkey Track well can't do anything about it. It's in an isolated fault block, and it cannot protect the remaining 75 percent of the east half of Section 2, and there will only -- Those wells will do a pretty good job of depleting all that gas if Bass is not afforded the opportunity to drill a second well.

Now, the last two lines show the results of adding the proposed Mewbourne well; that 3.2 BCF is without adding a Mewbourne well. But if we do add the Mewbourne well at an orthodox location, when the wells are all depleted there will only be 2 BCF of gas remaining on the east half of Section 2. What that indicates is that the Mewbourne well will be responsible for draining 1.2 BCF off

of the east half of Section 2, that well alone.

If we move it to an unorthodox location, move it 990 feet closer to the Bass tract, it's going to drain an additional almost half a BCF. So in total it's going to drain, if it moves to an unorthodox location, the drainage is going to go from the 3.2 BCF remaining down to the 1.6. So that well is going to drain 1.6 BCF off of the Bass-operated tract. And again, in dollar terms we're approaching $4 million there. It's a significant quantity of recoverable gas that that well will take from the Bass tract.

Q. So, Mr. Payne, it's your opinion that even if Mewbourne drilled an orthodox well and Bass was unable or not allowed to drill a second well and simultaneously dedicate it, it's still going to get drained?

A. That's exactly right. And there's three levels of drainage. There's the level that's going to occur from the existing wells, because the Turkey Track well can't protect it. There's an additional level that's going to occur if Mewbourne's allowed to drill, which they can drill an orthodox location today, they can go do that. And there's a third level of drainage that's going to occur if they're allowed to move 990 feet closer to the Bass tract, and that is, again, the Turkey Track well is incapable of protecting that, and that's why Bass will seek authority to

drill a second well on their tract.

Q. All right. If you would now turn, then, to the matters behind Tab 8.

A. Okay. Well, that basically concludes with the impact of that well. Where we head for the remaining exhibits is what would typically be done about a well at an unorthodox location, and we just developed some what we call standard penalty factors here.

As we've mentioned, from an east-west distance, they're orthodox in terms of the east-west line. So there would really be no penalty in terms of that variance.

From the north-south, they're moving 990 feet closer. So a typical penalty there would be 60 percent.

Since we're a diagonal offset, we were curious about -- what about the hypotenuse? At a standard location the Mewbourne well would be 1777 feet out of the corner. If they're allowed to move closer they'll only be 933 feet out of the corner. So in terms of distance to the Bass tract, it would be about 50-percent closer.

The little cartoon right behind this page shows, I think, what's typically shown in terms of excess drainage. With a 320-acre circle moving 990 feet closer to the lease line, we would have 93 acres of additional drainage over the 320-acre proration unit. So that would be a standard penalty of about 30 percent. And I think

those are all things that have been shown over here and have been the basis for penalties in the past.

Q. Mr. Payne, with respect to this, as you call it, cartoon, this really doesn't depict -- it's not really an accurate depiction, is it, because you're assuming that the Mewbourne would have or would be affecting a 320-acre drainage area, correct?

A. Exactly.

Q. Would you explain, then, what we're talking about and what the significance of that is?

A. Okay. Mewbourne, according to their interpretation and according to ours, does not have 320 productive acres on their tract; they have significantly less than that. So what that would, in effect, do is, their drainage area would really not be circular, and it would move more of the drainage pattern off their lease. If they don't have 320 productive acres, even more is going to be off the lease than normal, if that well truly drains 320.

What we have shown at the bottom of this page here is another factor that might try to take that into account in some fashion, and it's an unproductive acreage calculation that shows, at best, they have about 50 percent of their tract that's productive, even according to their map. They're saying 28 feet is uneconomic.

That would mean that only about 25 percent of their tract would be considered commercially productive. But at best, they would have 160 productive acres, and that would result in a 50-percent penalty, if you looked at unproductive acreage in terms of total acreage. That could be as high as 75 percent if you look at commercial production.

Q. Well, Mr. Payne, in your opinion is this case one that can be solved by the imposition of a penalty?

A. Well, no, it's not. And looking at this information here, my guess is that there would be maybe a 50-percent penalty imposed on this well if it was moved 60 percent closer to the lease line and 50 percent closer to the Bass tract and only had 50-percent productive acreage. That would seem to the kind of number that might be settled in on for a penalty.

And we were just curious what impact that would have on the wells in this area if a 50-percent penalty were imposed.

So if you turn to Tab Number 9, what we've attempted to do here is go back at all of the wells in our study area, the mapped area, and I think we've got -- we're showing 10 total wells. And we have listed the well name, the API number, and in the third column we've listed the initial deliverability, and that's off the C-122s for each

of these wells that are here at the NMOCD.

And then we've calculated an unpenalized monthly allowable. That's just taking the initial deliverability times the number of days in the month. And if you skip a -- - Well, I looked at the peak monthly rate. Sometimes a well will test poorer than it actually produces when it comes on, but that wasn't the case with these wells.

But I then took the unpenalized monthly allowable and cut it in half, imposed a 50-percent penalty on these wells, and looked at how many months these wells in this study area produced at a rate in excess of the 50-percent penalty.

And as you can see, of the ten total wells, six of them were completely unaffected. They didn't have a single month that they produced in excess of that 50-percent penalty. Only four of them had any effect at all, and the average impact is three months.

So number one, a 50-percent penalty, even in its worst case, has a minor impact on the wells in this area. They come on with very high initial deliverabilities, as you can see on the C-122s, but they decline very rapidly. And as a result of that, a 50-percent penalty, which sounds terrible -- nobody wants a 50-percent penalty assigned to their well -- it just has no impact on the wells in this area, or it would have had no impact on the wells in this

study area.

And we have a graphical representation of that on each of the wells just behind that page. What we show you there is, the green line is the initial well deliverability, multiplied by the number of days in the month, which gives you your unpenalized allowable.

The blue line is that unpenalized allowable cut in half, 50-percent penalty.

And then the red diamonds are the actual production histories for each of the wells in this study area.

And you can see the first well here is the one that had 12 months here the rate was barely in excess of the penalized allowable. After that, it would have had no impact at all. And you can tab through these things and see that, for instance, the second well, the Turkey Track Com Number 1, obviously has no impact at all. The first well had 12 months. The second well -- Even a 50-percent penalty would not have impacted this well at all. You could have gone to a 75-percent penalty and not have impacted this well.

And you know, a similar story time after time. The interesting one -- I think it's the third from the back; it's the Bass-operated Turkey Track State Number 1. It's by far the best well that has ever been drilled in the

field in terms of initial rate. This well came on making in excess of 10 million a day. It had stabilized monthly production of over 300 million a month for two months there.

And you can see that this well, the best well in the field, the highest rate, would have never been affected by a 50-percent penalty. If somebody had been trying to penalize this well, it would have had no impact on it at all.

Q. All right. Now, with respect to your last tab, Number 10, this is basically some conclusions, is it not?

A. That's correct.

Q. Would you go over those?

A. Okay. These conclusions, they address specifically the Mewbourne well. They do not address the pending application by Bass for simultaneous dedication in another well.

But I think what we've shown here is that clearly orthodox locations do exist on the subject tract for Mewbourne to drill. Physically, those orthodox locations can be drilled.

Point number two, the well would be capable of producing the remaining recoverable reserves under the subject tract from that orthodox location. They don't need an unorthodox location to produce their recoverable

reserves on their tract. And that's under either geologic interpretation.

Number three, moving the proposed well to an unorthodox location will allow confiscation of a significant quantity of reserves from the BEPCo-operated lease. And again, that's under either geologic interpretation, and it would occur from both the lower Morrow and the middle Morrow. Bass has no well that is able to protect it from drainage at this point.

I think we've also shown that the imposition of a penalty allowable would be in effect in preventing this confiscation. Even a penalty as severe as 50 percent would really not have an impact.

And another thing to think about there is that with Bass not having a take point on their tract, it really doesn't matter when Mewbourne produces the reserves, whether it's today or tomorrow or ten years from now. They're still going to produce them. And the penalty, all it's going to do is lengthen the amount of time that it takes for Mewbourne to recover those reserves. It's not going to diminish the recovery of that well.

So a penalty, for two reasons, would be completely ineffective in preventing the confiscation of those reserves.

And finally, conclusion number five is that the

proposed well should be drilled at an unorthodox location. Those locations exist, and it could recover the reserves on that tract.

Q. Mr. Payne, are you of the opinion that by disallowing an unorthodox location, that the best interests of all parties would be protected and the correlative rights of all parties would be better looked after?

A. Yeah, that's part of it. I think we also, to truly protect correlative rights, are going to need a second well on Bass's tract.

Q. Okay.

A. And the best place for those two wells are two orthodox locations.

Q. All right. And do you feel that requiring that both the Mewbourne well and the additional well that Bass is going to propose to the -- permission for, would best be situated at orthodox locations in the interest of protection of correlative rights and prevention of waste?

A. I think that is the best place. You know, we can drill two commercial wells at two orthodox locations and protect correlative rights.

Q. Do you feel that if the Division makes a decision that they were to allow Mewbourne to drill at an unorthodox location, as proposed, do you feel that a penalty, any penalty, would be effective to protect the correlative

rights of Bass and Santa Fe?

A. No, it would not.

Q. In that event, should that hypothetical situation arise that there was an allowance of an unorthodox, what would be your recommendation to the Commission with respect to the proposed well of Bass and Santa Fe?

A. If Mewbourne were granted an unorthodox location for the protection of correlative rights, I think Bass should be granted the same, an equidistant offset. That would be the only way for Bass to recover the recoverable reserves on their tract.

Q. And with respect to the upcoming proposal of being allowed to drill an additional well and simultaneous dedication, do you feel that that permission should be granted by the Division in order to protect Bass and Santa Fe's correlative rights?

A. Yes, I do.

Q. And with respect to the prevention of waste?

A. Prevention of waste and prevention of confiscation, that's true.

MR. ERNEST CARROLL: Mr. Examiner, I would move at this time admission of Exhibit Number 19.

EXAMINER CATANACH: Exhibit Number 19 will be admitted as evidence.

MR. ERNEST CARROLL: And I have no further

questions of this witness at this time.

EXAMINATION

BY EXAMINER CATANACH:

Q. Just a couple.

Mr. Payne, aside from the initial bottomhole pressure on the Turkey Track State Number 1 and the Merchant State Number 2, do you see anything in the production characteristics that suggests the presence of a fault?

A. Yes, the fact that the Merchant State Number 2 came on -- it had good sand quality, there was a significant sandbody there, it came on at a good initial rate and just depleted so rapidly. That had not been seen in the field before. That certainly indicates to me, combined with the initial pressure, that it's in an isolated and very limited container. If it's the size of this room or not, I don't know, but it would be very small.

Q. How about the other well? Do you see anything on that?

A. The same thing. It -- we -- Again, we saw the high initial pressure, essentially virgin initial pressure. The well came on -- It was a thickness that had not been seen in this area before, the significant sand thickness. Bass initially thought, and I thought the first time that I saw it, you know, we're looking at a multi-BCF well here.

It came on like that to begin with and then just declined very rapidly.

I think once it saw the drainage area boundaries, the production rate declined very rapidly. In fact, it essentially logged up. The well is now on compression. So that well depleted very, very rapidly. And that's just not consistent with the normal producing life that we see in these wells. Many of them are multi-year life, some of them, you know, 10-, 15-year life. So that's inconsistent with what we've seen in the other wells in the field.

Q. Did you actually -- In your reservoir simulation, did you actually map what you interpret to be the boundaries, those fault boundaries, into the model?

A. We approximated them as closely as we could. Again, it's 10 by 16, so each one is 40 acres. But we did fault-isolate an area with about 3 BCF in it. And based on the production history that we saw for the well, that -- You know, and it's centered around that well, and it seems to be a reasonable approximation of what that well is going to do.

If anything, we've probably isolated more reserves in the model from the remaining tract than the well actually has. I think it's very close, but -- we've probably isolated more, if anything.

Q. Now, in your penalty calculations, you assume

that we would impose a penalty based upon initial deliverability from the well and just leave it at that?

A. Yes, sir.

Q. Okay. A lot of times that's adjusted over the life of the well, based upon an annual or semi-annual test?

A. Yes, sir, and we did run that case out. Again, the difference here is that Bass -- the Bass well is separate. It might as well be in an Atoka reservoir or an Ellenburger. It's just not completed in that Morrow channel.

So any penalty, again, all it's going to do is delay the recovery of those reserves. It's just going to make the life of the Mewbourne well longer, but it will not in any way decrease the amount of recovery off the Bass tract.

And in my way of thinking, the penalty is designed to protect correlative rights and really to minimize the production of that well. You've allowed it to get closer to the lease line, which you're letting it produce at a reduced rate to minimize the drainage from the tract.

And if Bass had a protection well over there, it's conceivable that that might be somewhat effective. But without a protection well, it will have absolutely no impact, even if we adjusted it daily.

Q. Your model that you ran with Mewbourne's geology, it just doesn't work with their geology; is that your --

A. Well, that's right, it just will not work. We know that the channel is in communication, we know the wells in that channel are in communication because of their initial bottomhole pressures. The only way to get that to work -- As I indicated before, the model always indicated reservoir pressures to be several hundred pounds too high at the point the well was drilled. It just had too much gas.

What we would have to do is impose severe permeability restrictions around those wells to get the pressure to come down, and we just know that that's not what's occurring in the reservoir, it would not allow that communication.

So with that quantity of gas in place, plus, as Mr. Hillis described, the east-west orientation, it just would not allow that north-south communication that we've seen with the pressures.

EXAMINER CATANACH: I have nothing further of this witness.

Mr. Carr, do you have anything of this witness?

MR. CARR: No, I do not.

MR. ERNEST CARROLL: That would conclude our case, Mr. Examiner.

EXAMINER CATANACH: Okay. It's my understanding we're going to continue for four weeks.

MR. CARR: Let me --

MR. ERNEST CARROLL: We need to address that.

MR. CARR: As we know, Mr. Carroll's in a potash hearing, and we know that it's going to be impossible for him to be here four weeks from now.

I would request before we continue -- so I'll tell you what. We're going to try and settle. And I understand through Mr. Carroll that I can either work through Mr. Haas, but we'll be working, really, with Mr. Bailey as the contact person.

If, in fact, we reach a settlement, there's no reason to stay in limbo for two months. We ought to be able to come back and tell you that. And I would suspect that the record made here today would support a simultaneous dedication case if we all stipulated to that.

But we are going to try and settle it. And four weeks from now, if we cannot, we can at least report to you on where we are. And I'm really not authorized to go beyond four weeks, but I don't -- and I recognize the fact of life that Mr. Carroll is not going to take advantage of that.

MR. ERNEST CARROLL: We look like -- We're expecting to be through by -- right around the end of

March, based on all the -- As you can well expect, after we've been going at this eight or nine months, all of us are getting in trouble with other trials and deadlines, and it's getting very hard to get us all together.

But we still believe it will be through -- So I suspect that I will be able to handle any hearing if we set it in April. I'm not exactly sure what Mr. Carr was proposing. Quite frankly, maybe we could set it for four weeks for at least an update, and allow us to advise you where we stand, what the necessity...

We do need, like I say -- I intend to not only put notice out of our new application, but I'm going to send notice out with respect to this Application. And if you would give me a date, I will show that date at least for -- we can at least know if there's anybody else going to raise their head and want to do something.

So if everyone understands that I probably cannot hear it in four weeks, but there's good reason to go ahead and allow us to bring it before you, tell you where we're at, and also to find out if there's anyone else that needs -- is wanting to come in.

MR. CARR: And we've been, you know, sitting with a permit approved, recognizing all of this, since December. And if we can get the thing resolved in the next several weeks we'd like to do that and get going with it and not

just be locked up indefinitely.

EXAMINER CATANACH: All right. Well, let's continue it to the March 20th hearing at this point, and then we can -- from there we can do what we need to do. If we need to go further we can do that, or whatever we need to do we can decide at that point.

MR. ERNEST CARROLL: All right.

EXAMINER CATANACH: Okay?

MR. ERNEST CARROLL: That would be great. Thank you.

EXAMINER CATANACH: Thank you.

(Thereupon, these proceedings were concluded at 12:00 noon.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11713, heard by me on February 20 1997.

David R. Catanach, Examiner
Oil Conservation Division

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 February 25th, 1997.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998