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:	)	CASE NO. 12,450
APPLICATION OF OCEAN ENERGY RESOURCES, INC., FOR A NONSTANDARD OIL SPACING AND PRORATION UNIT, LEA COUNTY, NEW MEXICO	)	ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

July 27th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner on Thursday, July 27th, 2000, 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

July 27th, 2000
Examiner Hearing
CASE NO. 12,450

(Continued...)

YATES WITNESSES (Continued):

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E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	8	11
Exhibit 2	8	11
Exhibit 3	10	11
Exhibit 4	10	11
Exhibit 5	10	11
Exhibit 6	11	11
Exhibit 7	11	11
Exhibit 8	15	33
Exhibit 9	16	-
Exhibit 10	35	42
Exhibit 10A	48	-
Exhibit 11	38	42
Exhibit 11A	48	-
Exhibit 12	55	60
Exhibit 13	58	60
Exhibit 14	59	60

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Yates	Identified	Admitted
Exhibit 1	73	88
Exhibit 2	75	88
Exhibit 3	79	88
Exhibit 4	83	88
Exhibit 5	74	88

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David	Identified	Admitted
Exhibit 1	103	106
Exhibit 2	104	106

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A P P E A R A N C E S

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FOR YATES PETROLEUM CORPORATION; DAVID PETROLEUM CORPORATION; McMILLAN PRODUCTION COMPANY, INC.; and PERMIAN EXPLORATION CORPORATION:

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By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 11:18 a.m.:

EXAMINER CATANACH: At this time we'll call Case 12,450, the Application of Ocean Energy Resources, Inc., for a nonstandard oil spacing and proration unit, Lea County, New Mexico.

Call for appearances in this case.

MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe, representing the Applicant.

I have four witnesses.

EXAMINER CATANACH: Any 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 Yates Petroleum Corporation; David Petroleum Corporation; McMillan Production Company, Inc.; and Permian Exploration Corporation.

I have two witnesses.

EXAMINER CATANACH: Okay, additional appearances?

Will the six witnesses please stand to be sworn in?

(Thereupon, the witnesses were sworn.)

DEROLD MANEY,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Derold Maney, Houston, Texas.

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

A. Ocean Energy Resources, Inc., and I'm a landman.

Q. Have you previously testified before the Division?

A. Yes, I have.

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

A. Yes, they were.

Q. And are you familiar with the land matters involved in this case?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Maney as an expert petroleum landman.

MR. CARR: No objection.

EXAMINER CATANACH: Mr. Maney is so qualified.

Q. (By Mr. Bruce) Mr. Maney, could you identify Exhibit 1 for the Examiner and tell him what it shows?

A. It's a map of the area. The blue outline is the South Big Dog-Strawn Unit, the green outlines are existing Strawn units, and the red outline is the proposed unit.

Q. Okay. Now, the green outlines of the existing Strawn units, they look a little -- Some look larger than the others, but those are all 80-acre units?

A. Yes, sir, they are. This is computer generated and it looks funny, but we can't fix it.

Q. And the yellow acreage denotes Ocean operating rights?

A. Yes, sir.

Q. The other matter, looking just specifically at Section 2, all of the -- what would it be? Lots 14, 15, 16, the southeast quarter of Section 2 and the east half, southwest quarter, that is all state acreage?

A. Yes.

Q. And it is 100 percent Ocean?

A. Yes, it is.

Q. Okay. Very briefly, what is Exhibit 2?

A. It's the C-102.

Q. And the proposed Townsend Number 11 which we're here for today is at an otherwise orthodox location?

A. Yes, sir, it is.

Q. Now, the South Big Dog-Strawn Pool is spaced on 80 acres?

A. Yes, sir.

Q. And going back to your Exhibit 1, let's explain a little bit for the Examiner how this came about. In looking at Exhibit 1, the UMC Townsend State Number 1 -- which is a directional well, correct? --

A. Yes, sir.

Q. -- that is actually a nonstandard unit also?

A. Yes, sir.

Q. Approved by Order R-10,803, about three years ago?

A. I believe so, I'm not --

Q. You weren't the landman at that time?

A. No, I wasn't.

MR. BRUCE: Okay. Mr. Examiner, I have included in this exhibit package a portion of Order Number R-10,803. I ask that you take administrative notice of these cases.

For your information, what happened was, the Hobbs District Office approved the Townsend State Number 1 well unit, which is a nonstandard unit. The well was drilled and UMC --

Q. (By Mr. Bruce) -- which is now Ocean, correct, Mr. Maney? --

A. Yes, sir.

MR. BRUCE: -- had to go hearing to get approval for that nonstandard unit. As a result, there is a

stranded 40 acres on Ocean's acreage, which, if you'll look at the page I've provided, page 7 of the Order R-10,803 -- the third exhibit, Exhibit 3, Mr. Examiner, the second page of that exhibit -- that order provided for UMC, now Ocean, to form a 40-acre nonstandard strawn unit. One of the reasons that was done is that the entire southeast quarter of that section and Lots 15 and 16 are one single state lease with common ownership.

Q. (By Mr. Bruce) Mr. Maney, moving on to Exhibit 4, with respect to the case we're here for today, Ocean also applied for administrative approval of a nonstandard unit, did it not?

A. Yes, we did.

Q. And Exhibit 4 is the notice letter sent to Yates regarding that administrative application?

A. Yes, it is.

Q. Yates is the only other offset operator of the Strawn affected by this --

A. Yes.

Q. -- nonstandard unit?

And is Exhibit 5 simply my notice letter regarding this hearing?

A. Yes, sir.

MR. BRUCE: Mr. Examiner, I forgot to provide an affidavit with this letter. If you so desire, I can

provide an affidavit regarding notice after the hearing.

EXAMINER CATANACH: Yeah, please do, Mr. Bruce.

MR. BRUCE: Then finally, Mr. Examiner, just -- I would -- Exhibit 6 and 7 is Administrative Order NSP-1824, which approved the nonstandard unit we're here for today, and Exhibit 7 is a letter from Mr. Stogner holding that NSP in abeyance pending the outcome of this case.

Q. (By Mr. Bruce) Mr. Maney, were Exhibits 1 through 7 prepared by you or under your direction or compiled from company business records?

A. Yes, sir, they were.

Q. And in your opinion is the granting of this Application in the interests of conservation and the prevention of waste?

A. Yes, it is.

MR. BRUCE: Mr. Examiner, I'd move the admission of Ocean Exhibits 1 through 7.

EXAMINER CATANACH: Any objection?

MR. CARR: No objection.

EXAMINER CATANACH: Exhibits 1 through 7 will be admitted as evidence.

Mr. Carr?

EXAMINATION

BY MR. CARR:

Q. Mr. Maney, is the ownership in the southeast

quarter of Section 2 common?

A. Yes, sir.

Q. So the ownership in the proposed nonstandard spacing unit is identical to the ownership in the nonstandard unit dedicated to the Townsend Number 5?

A. Yes, sir.

Q. Were you involved in the decision to go forward with additional development in the southeast quarter of this section?

A. Yes, sir.

Q. And when did that occur?

A. It had been talked about as early as when this unit was, I guess, stranded out there, and -- but here recently, probably, oh, in the last several months.

Q. And when was it discovered that you had this stranded tract?

A. We've known about it, you know, a long time. It's been in the files, and it kind of sticks out.

Q. So this has been something that Ocean has been considering for some time?

A. I believe so. I mean, when we got it we noticed it, and it's been on the agenda awhile.

Q. Were you involved in either the preparation of the Application to go to hearing or the administrative application?

A. The initial one or this one right here?

Q. This one here.

A. Yes, sir.

Q. And were you kept -- or were you aware that Yates was appearing in the case that was going to hearing?

A. This case right here?

Q. Yes.

A. We knew we had to notify you.

Q. When did you find out that there might be opposition to the Application?

A. When I got the notice of abeyance.

MR. CARR: That's all I have. Thank you.

EXAMINATION

BY EXAMINER CATANACH:

Q. The three existing proration units -- Let's see, Ocean operates the Townsend State 5?

A. Yes, sir.

Q. And the Townsend State Number 1?

A. Yes, sir.

Q. And the other one is dedicated to -- it looks like the Yates well?

A. Yes, it's the "APK" -- I think it's the Number 1, State Number 1.

Q. And you've got 40 acres included in that dedicated tract?

A. Yes, sir.

Q. Is there any development on the west side of this?

A. Yes, sir, there are wells there, and they are -- I'm not sure what they're producing from.

Q. You don't know if they're in the Strawn?

A. No, they're not. All the Strawn wells are pictured on the map here in yellow, or orange dots.

Q. Okay. This is basically a problem that you inherited; is that right?

A. Yes, sir.

Q. Previous operator was UMC?

A. Yes, sir. UMC merged into Ocean, and then Ocean merged into Seagull, and that's where I got involved in this, through that merger.

EXAMINER CATANACH: I have nothing further of this witness.

FRANK MESSA,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. My name is Frank Messa.

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

A. I work for Ocean Energy in Houston, Texas, as a senior staff geologist.

Q. Have you previously testified before the Division?

A. Yes, I have.

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

A. Yes.

Q. And are you familiar with the Strawn geology in this Application?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Messa as an expert petroleum geologist.

MR. CARR: No objection.

EXAMINER CATANACH: Mr. Messa is so qualified.

Q. (By Mr. Bruce) Mr. Messa, could you identify Exhibit 8 and describe what it shows for the Examiner?

A. Yes, this is an isopach map that shows the Strawn porosity thickness greater than 3-percent porosity. This is a map that is included well control, pressure data, seismic data, and it's been, in my opinion, very accurately and fine-tuned, the combination of the three data sets, to create this map.

Q. Looking at this map, just to reiterate some of the wells, starting, say, in the very southwest corner of

Section 1, is that a Strawn dry hole?

A. Yes, that is a Strawn penetration with no porosity and plugged and abandoned.

Q. Okay. Moving to the north, the directional well that -- the Ocean Energy, Townsend State Number 1, that is in a separate porosity pod in this area?

A. Yes, it is.

Q. Moving to the west, the Townsend 2 Number 1, is that dry in the Strawn?

A. Yes, it is.

Q. And then these two wells immediately to the southwest, the Yates Field "APK" Number -- What is it? Number --

A. -- 3.

Q. -- Number 3, and then the adjoining well, are those dry in the Strawn?

A. Those are both dry in the Strawn, yes.

Q. Okay. Based on your mapping, is the Townsend State Number 5 in a separate porosity pod from any other Strawn well in this pool?

A. Yes, it is.

Q. Okay, why don't you move on to your Exhibit 9 and maybe describe in a little bit more detail what you see when you're looking at the Strawn in this area?

A. Exhibit 9 is a cross-section that is outlined on

the map as cross-section A-A'. The first well on the cross-section shows the Ocean Energy Townsend 2 State Number 1, which had effectively no Strawn porosity and no Strawn reservoir.

And moving south along the cross-section, it goes to the Townsend State Number 5 well, and it shows along the line of cross-section an additional porosity pod, and then it shows where the Townsend 5 well location is located, we have the Strawn buildup there.

Following the cross-section to the Yates Runnels Number 3, which was a horizontal well drilled from the Burleson and Huff Number 3 Lusk well, ad it shows a porosity pod in between those two wells, and it shows how the -- in a schematic form, the wellbore penetrating the porosity pod along the cross-section.

Moving west to the Number 1 Lusk, no porosity, no Strawn buildup.

And then moving to the Yates Schenck and the Lusk "ANB" Number 2, I have not been able to find the logs from the Schenck at the OCD. My last phone call there was, those logs had not been turned to the OCD.

And the last well on the cross-section, that log is not available.

The purpose behind the cross-section is to show the discrete nature and the isolated nature of these Strawn

buildups.

And it's been scaled to the map and is a very accurate depiction of what I see on the map, again including the seismic data, pressure data and subsurface data.

Q. Based on your mapping, should the proposed Townsend Number 11 intersect one of these porosity pods?

A. Yes, it should.

Q. Okay. And again, looking at this, would the Townsend Number 5 and the Townsend Number 11 be separate from any other porosity pods in this pool?

A. They are separated, yes, from any other porosity pod in the pool.

Q. Were Exhibits 8 and 9 prepared by you or under your direction?

A. Yes, they were.

Q. In your opinion, is the granting of Ocean's Application in the interests of conservation and the prevention of waste?

A. Yes, I do.

MR. BRUCE: Mr. Examiner, I would move the admission of Exhibits 8 and 9.

MR. CARR: Mr. Examiner, may I ask some questions concerning the preparation of these exhibits?

EXAMINER CATANACH: Certainly.

VOIR DIRE EXAMINATION

BY MR. CARR:

Q. Mr. Messa, if I look at what has been marked Exhibit Number 8, this looks to me as if it is an exhibit very similar to one presented at hearing in May; is that correct?

A. That is correct.

Q. Was this exhibit prepared by you?

A. That exhibit was reviewed by me.

Q. Did you change the contours for the Strawn anomaly shown in the southeast of Section 2?

A. No, I did not.

Q. When we look at this exhibit, the shape of that anomaly, I believe you testified, was based on seismic as well as well-control information?

A. Yes.

Q. Is there any well-control information that would actually assist you in configuring this pod as you have here?

A. The well control, yes.

Q. Do you have well control that, in fact, would show that there is a nose coming in from the northeast that is outside that pod, or is that based on seismic data?

A. I do not see a nose. What nose are you referring to?

Q. If you look at the pod in which the Townsend Number 5 is located, we see that it is contracted in on the northeast edge of that reservoir, there's sort of a nose that comes in, that is mapped as outside the pod; is that right?

A. I'm sorry, I'm not following exactly where on the map we're talking about.

Q. I guess my question is this: It has got an odd shape, and my question is, have you drawn the boundary of this pod based on seismic information?

A. The boundaries are formed from the seismic, not entirely drawn or copied from seismic; it also includes the well control.

Q. The seismic -- This interpretation is going to be the basis for volumetric calculations and other testimony to come, is it not?

A. Yes.

Q. And you are aware that we sought your seismic information by subpoena, are you not?

A. You sought our seismic data by subpoena.

Q. And we have not received any seismic?

A. I'm not aware of that, no.

MR. CARR: Mr. Examiner, I'm going to object to the admission of Exhibit 8. The map is based on seismic information. We attempted to obtain it through subpoena,

and the response was that it was interpretive and proprietary.

We have the right to cross-examine the witness on the shape of this pod. The whole case rests on the way they have mapped this reservoir, and as it stands today we do not have the data available to us to effectively cross-examine them, and therefore we object to the admission of Exhibit 8.

EXAMINER CATANACH: Mr. Carr, when was this subpoena information denied?

MR. CARR: There was a -- Mr. Bruce objected to the subpoena, and his objection was received early this week, and it stated that it was proprietary and it would not be produced.

We can either recess now and have a hearing on a motion to compel, or I submit it's inappropriate to admit exhibits when we're denied underlying data and can't effectively cross. Without the seismic we cannot do that.

MR. BRUCE: Mr. Examiner, first of all, Yates has the same seismic data that Ocean has.

Secondly, we will present a geophysicist to present and discuss the seismic data.

Third, this is virtually identical to a map that was admitted into evidence at the last hearing on May 4th.

And fifth [*sic*], Yates has sufficient data. As a

matter of fact, Mr. Examiner, with respect to the last hearing orders were submitted over the last few days, proposed orders, and one of the things submitted by Mr. Pearson on behalf of Yates is a map that looks virtually identical to the mapping done on Ocean's exhibit. They obviously have the seismic, they obviously know what to look for.

And stating that they can't cross-examine because they haven't seen Ocean's seismic data, which they have the same data, is just plain wrong.

EXAMINER CATANACH: I'm sorry, you said they have the same data. It's not exactly the same.

MR. BRUCE: It's the same -- We have a geophysicist who could explain it better, Mr. Silver, but they have the same data set that Ocean does.

EXAMINER CATANACH: Sorry, was this motion ruled on?

MR. CARR: No. I would note that simply because we have accepted in the earlier case an interpretation for purposes of doing some volumetric calculations, it doesn't mean when they come along to put a second well in a pod that we're bound by having used that before, and they contend that their interpretations are confidential and proprietary, their seismic data is. It isn't the identical information that we have. To effectively pursue this, we

need to see it. Without it, we can't cross. Without it, this exhibit cannot be admitted.

EXAMINER CATANACH: Mr. Carr, you say you don't have the same geophysical data?

MR. CARR: No. That's what I understand.

MR. BRUCE: In the motion, in my response to the subpoena -- which, by the way, Mr. Examiner, I saw Friday and I had to respond to on Monday, I said we would be preparing exhibits for submission at the hearing, and they will be given to Yates at that time. I did not have the exhibits on Monday.

MR. CARR: We aren't asking for the exhibits, we're asking for the data that was used to interpret the reservoir in this fashion, because their entire case and volumetric presentation will be based on this interpretation.

EXAMINER CATANACH: Is it Yates' position that -- I mean, it looks like Yates has submitted their own map which maps this reservoir. It looks the same. Is that --

MR. BRUCE: Obviously, they have the same type of data if they come up with virtually identical mapping as we do.

I fail to see where they're harmed because they have seismic data, we have seismic data; they can make their own interpretation.

It's not my fault they didn't bring up a geophysicist to present their side of the story.

MR. CARR: Our testimony will be, and if you'd like to ask Mr. Pearson who's under oath, we accepted their map for the purpose of our calculations; we did not independently map --

MR. BRUCE: Mr. Examiner, this map is dated October, 1998, a year and a half before the last hearing. To say that they used our data to prepare a map a year in advance, a year and a half in advance of a hearing, is foolish.

MR. CARR: When we look at the transcript, Mr. Pearson said it was not a current interpretation.

EXAMINER CATANACH: Yates has some seismic data in this area that they base their geologic interpretation on?

MR. CARR: Yes.

EXAMINER CATANACH: Is that the only issue as far as the subpoena, was the seismic data?

MR. CARR: I think at this point in time, that's the only issue.

EXAMINER CATANACH: Okay, I'm going to go ahead and rule to grant the motion to quash the subpoena by Mr. Bruce and not have the motion be required to submit that data.

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Messa, if we look at your Exhibit 8, is there any well control that would show there is separation between the pod in which the Townsend Number 5 is located and the pod you have mapped south and west of that in which the Schenck and the Lusk 2 are located?

A. I'm sorry, I didn't hear the --

Q. You show separation --

A. I show -- Yes, there is separation shown.

Q. And I'm asking, is there any well control that you can use to establish that?

A. The well control would be the Lusk Number 1, the Yates Field "APK" Number 3.

Q. Do any of those confirm separation between the Townsend Number 5 and the Lusk 2?

A. Those well control and the seismic data very clearly show that there is separation in between.

Q. Now, if we look at your seismic data, what is the vertical resolution in this seismic shoot?

A. I'm sorry, you'll have to refer that to our geophysicist.

Q. So your testimony is, it's based on your physical information, but you can't explain that to me?

A. We work on this together as a team.

Q. And there was an individual, a Brian Bloom, or Blome. Did he work on your team as well?

A. He did. He's no longer with this company.

Q. Do you know what the zero contour line you've shown on this exhibit actually -- what it actually shows?

A. Yes, I do.

Q. And what does it show?

A. It shows the extent of the reservoir.

Q. Are you saying that that zero contour line is the limit of that pod?

A. Yes, I am.

Q. And it just happens to come down and break right on the north line of Section 11?

A. Yes, I am.

Q. Could you tell me where the proposed well is in regard to this pod as you've mapped it?

A. The proposed well, the Townsend Number 11?

Q. Yes.

A. It will be on the northwestern limb of this porosity pod that the Townsend Number 5 is drilled in.

Q. Is it in that separate high that you show north of the Townsend Number 5?

A. Yes.

Q. I mean, have you plotted it on any of these maps?

MR. PEARSON: Could you plot it on a map?

THE WITNESS: Could I plot it on a map?

Q. (By Mr. Carr) Yeah, so we could see where your proposed location is in regard to your --

MR. PEARSON: Because it's not on your land map and it's not on --

MR. BRUCE: Mr. Examiner, I would ask that Mr. Carr make the questions, not Mr. Pearson.

EXAMINER CATANACH: Please do so, Mr. Carr.

Q. (By Mr. Carr) I will do so, and my question is, could you show me on one of these maps where you have interpreted an algal mound or pod where your proposed location will be located?

A. Are you asking for a footage call from --

Q. No, I'm just trying to see where it is in regard to your interpretation. I'm just -- That's all it is. And if you're off a little, that's all right with me.

I'm just trying to see whereabouts, generally, in this pod --

A. Ideally, it would be located on the very thickest part of the pod, for this particular zone. We always drill these wells looking for multiple zones.

Q. So that's ideally -- Is that where you have placed it? If we were to ask you to spot it on Exhibit Number 8, would it be in that high --

A. Yes.

Q. -- in the northern part of the pod?

A. Yes.

Q. And it is your testimony that it's this interpretation from which you draw the conclusion that there is separation between these individual pods?

A. I believe there is separation. There may be -- somewhat connected at the very thinnest part of it, but it would probably be not productive within the separation. I'm saying that they are separated.

Q. You're saying there is an absolute separation?

A. There is a separation. There is not a zero separation between the two, but there is definitely a separation.

Q. But --

A. The two pods are separate.

Q. But not zero?

A. But not zero.

Q. So there is some connection between --

A. Yes, there is some connection.

Q. And so what we have mapped here is a thickness or a contour interval of -- what, more than what, shows the zero line?

A. We're looking at a possible connection of maybe 20 feet.

Q. So there may be Strawn formation 20 feet thick

between these pods; is that what you're saying?

A. I'm saying there may be the rock that is part of the Strawn formation that is 20 feet thick, but not the productive part of the rock.

Q. is the productive part of the rock shown by the zero contour?

A. The zero is where it's definitely not productive.

Q. And you can tell that from a geological interpretation?

A. Yes, I can.

Q. What geological information do you have that tells you that that zero is below what would be productive?

A. I believe I stated earlier that this map is a composite of geological, geophysical and engineering data.

Q. And so to ask you about it, the conclusion as to what is productive is not a geological question?

I mean, there are three people. I'm trying to just find out how you decided that that was not productive at the zero line, and in a few minutes you'll be gone, and I don't want to be asking an engineer who refers me back to a geologist.

And so my question is, is there a geological component to that decision, that that zero line is below anything productive?

A. Well, yes.

Q. And what is that?

A. The well control to the north, to the northwest, the zero to the southeast, the zero to the southwest.

Q. And that tells you --

A. Those are the control limits for the extent of that pod.

Q. And that tells you that at this zero line, anything below that is not productive --

A. That's right.

Q. -- geologically?

Thank you, that's all.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Messa, with regards to going towards the southwest, are you using the control point for the Lusk Number 1?

A. Yes, and I'm also using the geophysical data.

Q. So you're testifying that there is Strawn rock between the two pods --

A. Yes.

Q. -- the Schenck and the Townsend, but that rock is nonproductive?

A. Yes.

Q. By virtue of being -- Is it tight? Is that what you're saying?

A. Yes, it's tight rock, it has no permeability to transmit any fluids.

Q. And that data -- And that shows up on your geophysical data?

A. Yes.

Q. And your geophysicist will be testifying to that?

A. Yes.

Q. So basically, is it your geophysical data that basically defines the shape of the pod?

A. Yes, the geophysical data does help define the shape of the pod.

Q. But you also use well control?

A. Yes.

Q. But you've definitely got connection in the pod -- Between the Townsend 5 and the proposed Townsend 11, there is connection in those two areas?

A. Yes, there is some connection, but I do not believe that the Townsend 5 could effectively drain the pod to the north.

Q. Is there a reason for that?

A. The more thin that you get the Strawn, the less permeability you see with it. The thinner the Strawn rock, the thinner the permeability is. Typically, you see a correlation between thickness of the rock and permeability of the rock.

Q. So the location for the Townsend 11 well, that would probably be located in a Strawn section that's even thicker than the Townsend 5; is that correct?

A. I believe so. If we spotted the well at the very maximum thickness of this well, yes -- at the very maximum thickness of this pod.

Q. And is that where the well is spotted, within that center contour there?

A. That I do not know, because I did not spot that well on this map.

Q. Is it the logs for the Schenck and the Lusk well in that separate pod to the southwest, that those aren't available, right?

A. Yes.

Q. You've not been able to examine those logs?

A. I've not been able to examine those logs.

Q. Would that help you to confirm that it's a separate pod?

A. Not.

Q. That wouldn't help?

A. It would not help confirm. Even if I had those logs, it would still show the same shape that I have.

The only thing that would change would possibly be the shape and outline of the pod that the Schenck and the Lusk "A" and "B" are located.

Q. The Runnels "ASP" Number 3 well to the south --

A. Yes.

Q. -- that is a -- you show that to be producing 573 barrels a day; is that correct?

A. Yes, I am.

Q. And that is what looks to me to be outside a zero contour line.

A. Yes, it is a horizontal well that was drilled by Yates.

It re-entered the well just south of it, the Lusk Number 3, and drilled through the pod horizontally.

Q. So there is some completion within the thicker portion of the pod?

A. Yes.

EXAMINER CATANACH: Okay, I believe that's all I have of the witness.

Anything else of this witness?

MR. CARR: Was Exhibit 8 admitted? You ruled on the motion to quash.

EXAMINER CATANACH: Yes, we will admit Exhibit Number 8.

MR. CARR: I'd like the record to reflect my objection.

EXAMINER CATANACH: The record shall reflect your objection.

ROBERT SILVER,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name?

A. My name is Robert Silver.

Q. Where do you reside?

A. I reside in Houston, Texas.

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

A. I work for Ocean Energy as a senior geophysicist.

Q. Have you previously testified before the Division?

A. No, I have not.

Q. Would you summarize your educational and employment background for the Examiner?

A. Of course. I graduated from the University of Utah in 1977 with a degree in geophysics and a degree in geology. I worked for Conoco, Texas Oil and Gas, which became Bridge Oil, which became Parker and Parsley, which became Pioneer Natural Resources. And then I've also worked at Ocean Energy.

Q. How long have you been at Ocean now?

A. I've been at Ocean just over a year.

Q. Does your area of responsibility include the

Permian Basin in southeast New Mexico?

A. Yes, it does.

Q. And you familiar with geophysical matters related to the proposed well?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Silver as an expert geophysicist.

MR. CARR: No objection.

EXAMINER CATANACH: Mr. Silver is so qualified.

Q. (By Mr. Bruce) Mr. Silver, could you identify -- just briefly identify Exhibit 10 for the Examiner, and then I'll ask you follow-up questions.

A. I need to know which one is Exhibit -- I don't have --

Q. Excuse me, Exhibit 10.

A. Okay. That is a map that's centered around Sections 2, 3, 10 and 11 of 16 South, 35 East, the area that we've been talking about, and it is a map of a Strawn peak isochron. In other words, in the seismic data the Strawn horizon or the Strawn formation is a faster rock than the Pennsylvanian shell just above it, and it creates a peak on the seismic data, and the width of that peak is what's measured in this map.

Q. Okay. Now, looking at this map, on the eastern side, over towards Section 1, it becomes blank. Is that

pretty much the limits of Ocean's seismic data?

A. Yes, the edge there is the limit of our seismic data.

Q. Okay. Now, there's been some discussion. What -- You know, do Ocean and Yates have the same basic type of seismic?

A. Yes, Ocean and Yates participated in this seismic shoot together, and it was jointly shot. We have each individually processed the data at different processing centers. So they have the data that we have. We have a different processed version.

In fact, I might state that our processed version has basically a frequency content of about 80 hertz, 80 cycles per second. I have seen Yates' version, and theirs is probably closer to 50, 55 hertz per second.

So there's a difference in the look of it, but is based on the exact same physical data.

Q. Okay. Now, looking at this map, there's some black dots on there. Just for explanatory purposes, what are those?

A. Those are Wolfcamp producers. There's a Wolfcamp reef that runs through here, and so those smaller-diameter dots are, for the most part, or maybe for the complete part, Wolfcamp producers in a shallower field.

Q. And then the -- I don't know what you call them,

the open white circles, would that designate wells that have penetrated this Strawn?

A. Yes, the open white circles or the larger diameter circles would be Strawn tests.

Q. One final thing before I turn you loose to explain what it shows, on Ocean's acreage just north of the Townsend Number 5, there's an area, red and yellow area with a little circle in it. Is that the location of the proposed Townsend Number 11 well?

A. Yes, that is, and I can give you the footage calls for that if they want to mark it on that map. It's 1650 from the east line and 1800 from the south line.

Q. Would that location pretty much be in line with the high on Mr. Messa's --

A. Yes.

Q. -- isopach map?

A. Yes, it would. And if you had a ruler you could, you know, just plot that right on there.

Q. Okay. Before I ask you any more questions, then, could you just go through this exhibit and tell what it shows about the Strawn in this area?

A. Basically what it shows is the productive areas in the Strawn, versus areas that are going to be tight. And when we get to the next exhibit, it might be a little easier to explain the physical parameters of what this --

Q. If you want to go to Exhibit 11, which is the next map --

A. Okay.

Q. -- and then go through them together, please feel free to.

A. I would prefer to do it that way, if I could.

On the next exhibit you'll see, on the seismic thing, there's a big word "Strawn" right there. That is the Strawn peak. And if you'll look, there is a red line that is at the very top of that black-colored peak and then a blue line that's at the base, and in geophysical parlance, those are zero crossings which you can measure, the computer can pick those. And what I've measured on this map right here is the millisecond difference between those two lines, and it's colored to represent 16 to 22 milliseconds. So the 22 milliseconds is going to be the red, and below 16 milliseconds is going to be the blue.

And so what you see is, where it is thick is where you have the red, and it shows up where the Strawn reefs are. The physical reasoning for that is, if you go back to the cross-section that Frank Messa showed, where you have a thick porosity unit you get an extra event, because, in a quick explanation again, there's a slower rock on top of the Strawn, which is Pennsylvanian shale. It starts to give you a peak. And then as you go through

the Strawn, and there's a little micrite zone at the base of the Strawn, which is tight rock again. That's another increase in velocity, and it breaks out as a separate peak.

And if you look at the seismic data, you can see that the wells have been drilled based on that, and it's been a very accurate way to find the oil out here. And that's --

Q. Now, there have been some dry holes --

A. Yes.

Q. -- in the Strawn, drilled in this area. Is it fair to say that over the last several years there has been a refinement of the interpretation of the data?

A. Oh, I think that would probably be fair to say. In fact, I'd like to maybe point out some of the wells on the --

Q. Go ahead.

A. -- seismic line. For example -- These are labeled, but starting at the left, the Brunson Number 2, there's that second little peak where the thick Strawn event doesn't show up there. That is a Strawn dry hole. The Number 2 Lusk is kind of on the edge, and it is a Strawn producer. The Schenck "ATP" shows up relatively thick. It is a Strawn producer.

The Number 1 Lusk "ANB" looks like again it's kind of right on the edge, but it had no porosity. It just

missed it, showing you that that zero line is very tight right in there.

As you continue across, the Runnels Number 3, the bottomhole location is not thick. And as you look on the log there, I think that also, the very bottom of the hole is not where the productive Strawn was, but back in the -- further up in the horizontal well there.

The Townsend Number 5, you can see that it breaks out very nicely and is probably the single thickest isochron point right in there where the Townsend 5 is.

Then you can see it narrows to where there's nothing, and then there's another little pod that starts. And although it's not labeled, that would be the location for the Townsend 11. And then you go to the Townsend 2, which again is thin and is a Strawn dry hole.

Q. Looking at this, even if you -- in the northeast quarter of the southwest quarter is the "APK" State Number 3 well. There was a little bump there, was it not?

A. Yes, there was a little thickening there, but it didn't make much of a well in the Strawn.

Q. Okay.

A. But it wasn't the full thickness like you have in the Townsend.

Q. Okay. Now, looking at this, do you see a thick in between the Townsend Number 5 and the Schenck or Lusk

Number 2 wells?

A. Yes, there's a little area that's colored green on the map, and it's a little bit thicker there, but it's not thick enough to be -- In my opinion it wouldn't be thick enough to put a well there. If Yates feels that we're connected, I don't know why they wouldn't put a well there, you know, if they...

Q. But that minor peak is separated by some substantial difference from the Townsend Number 5 reservoir?

A. Yes.

Q. And then there's another break in it between that little peak, which is -- what? Say, right on the half-section line --

A. Yes.

Q. -- and then the Lusk Number 2 and the Schenck wells?

A. Yes, they're very much separate.

Q. Based on this, would you expect the Townsend Number 5 to be producing from the same reservoir as the Schenck or Lusk Number 2 wells?

A. Absolutely not.

Q. Mr. Silver, were Exhibits 10 and 11 prepared by you or under your supervision?

A. Yes, they were.

Q. And in your opinion is the granting of this Application in the interests of conservation and the prevention of waste?

A. Yes.

MR. BRUCE: Mr. Examiner, I'd move the admission of Exhibits 10 and 11.

MR. CARR: No objection.

EXAMINER CATANACH: 10 and 11 will be admitted as evidence.

Mr. Carr?

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Silver, how long have you been working on this prospect area?

A. For a year.

Q. I'm sorry?

A. For a year.

Q. For a year? And so you were involved in and have worked with the geophysical information on this prior to the May 4th hearing; is that right?

A. Yes.

Q. When I look at your Exhibit Number 10, there are lines that are a grid. Are those section lines?

A. Yes.

Q. And you have shown on this the pod in which the

Townsend Number 5 is located. When I compare that to the isopach of the Strawn, the isopach cuts off right on the north line of Section 11, and yet it appears that your mapping shows that pod extending down into Section 11; is that correct?

A. Just barely.

Q. And is there any particular reason why it was cut off, the pod, so it didn't extend down into the Yates acreage?

A. The reason would probably be as I go through and refine this, and sometimes there might be one -- That's probably just one single bin that got changed in going through and, you know, looking at it. So...

Q. Now, when we look at the data that you've presented on this exhibit, you have a seismic Line B.

A. Yes.

Q. But you have additional seismic data across the are?

A. Well, yes. I probably didn't explain that. That seismic Line B is an extraction from a 3-D seismic --

Q. It covers the entire --

A. -- survey that -- yeah, that covers the entire area.

Q. And when we look at the pod between the pod in which the Shell Lusk Number 2 is located and the Townsend

5, you see a thickening in there?

A. Yes.

Q. You also see separation on either side of that?

A. Correct.

Q. When you're working with this seismic information, you can't see an interval of less than 15 or 20 feet, can you?

A. Fifteen to 20 feet would be -- That's about a quarter of the wavelet that we have out here, and so that's what's going to give you your maximum kind of seismic response. To see less than 15 or 20 feet would require kind of perfect conditions. And so yes, I would say that's a very good cutoff, 15 to 20 feet.

Q. And so you can't see it --

A. You couldn't necessarily resolve 15 or 20 feet.

Q. What is the horizontal and vertical resolution that you get from this kind of a seismic shoot --

A. The distance between, say, two peaks on the seismic data is about 100 feet, just to kind of, you know, get your eye attuned to -- Because seismic data, of course, is measured in time rather than footage. But the distance between, you know, two of the closer peaks there would be about a hundred feet. So --

Q. And that's the horizontal?

A. No, that's vertical.

Q. Okay, then what is the horizontal?

A. Each one of these traces is 55 feet apart.

Q. So --

A. Fifty-five or 110, you know, I'm not 100-percent sure on that.

Q. But can you see less than that? I mean, when you've got this sort of a resolution, can you read -- can you refine it beyond those measurements? Are there areas that you --

A. The horizontal -- You know, each bin is where one of those traces are. You can't do any finer than that. I mean, what you shoot the data in, you get a trace in every, you know, every 55-foot-square bin. But that's it, that's the maximum resolution, horizontally, that you can do.

Vertically, a lot of it depends on the actual velocity of the particular rock you're looking at, whether it's limestone or shale and how it sits. So sometimes it's not quite a blanket statement to say, you know, you can see 20 feet or whatever, because it somewhat depends on the specific geology right there at that spot.

Q. Is there a geophysical component, when we look at this information, to being able to determine whether or not what you have in the pod is productive or not?

A. What we're measuring with the seismic right here, that increase in the total distance that that peak takes is

a result of the increase in porosity.

Q. Okay. If we go to Exhibit 11 and we're looking for porosity for, say, the Townsend Number 5 --

A. Uh-huh.

Q. -- would that porosity correspond to the doublets that are sort of at the top of the arrow above the Townsend Number 5?

A. Yes, that's what that arrow is pointing to.

Q. We see it there. We don't really see those above the Townsend 2 --

A. No.

Q. -- or Runnels 3; is that right?

A. That is correct.

Q. While we were talking with your geologist, we were trying to find out where the permeable rock actually was in this reservoir. Does the seismic tell you where that rock is located?

A. The seismic doesn't give any measurement of permeability. It gives a measurement of porosity, which is related to the velocity of the rock. However, porosity and permeability in a carbonate are very closely related.

MR. CARR: That's all I have.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Silver, you've used the data on Exhibit

Number 11 to map the thick section that you've shown in between the Townsend 5 and the Schenck --

A. Yes.

Q. -- is that correct?

A. Yes.

Q. Can you show me where that is on Section 11?

A. Actually, the seismic line or Line B there, Exhibit 11, was drawn to match Frank's cross-section. And so, as you can see the red line on the map, it doesn't actually cross that little thicker area. I have other examples of that, if we need to put those in.

MR. BRUCE: If you would like that, we have another --

THE WITNESS: Yeah, I have that, if we need to put that in.

Q. (By Examiner Catanach) Do you have another line that goes between those two pods?

A. I have a direct line that connects directly through there, I do.

Q. Yeah, I would like to see that.

A. Okay.

MR. BRUCE: Mr. Silver, I've handed you what's been marked Exhibits 10A and 11A. Could you identify those for the Examiner and --

THE WITNESS: Yes.

MR. BRUCE: -- describe them in more detail?

THE WITNESS: Okay, Exhibit 10A is the exact same map that we had in Exhibit 10, only it shows two additional seismic lines, a direct seismic line connecting the Townsend 5 with the Schenck well, and a direct seismic line, Line C, which connects the Townsend 5 well with the Number 1 Lusk A and B.

And Exhibit 11A are those two lines, labeled Line A and Line C.

And to answer the question, Line C, what is labeled as Line C would cut right across that extra little thick that's in there, that's on the map. And if you look at Line C, you can see there's an arrow for the Lusk A and B where it's kind of right on the edge of what we've been describing as that extra little peak, and then the Townsend 5, and then right in the middle you can see where it kind of thickens up there, and it starts to build into a second peak, is that highlighted area, that's green.

Verbally, did I explain that well enough for you to understand? Okay.

Q. (By Examiner Catanach) And it shows that there is a thickening, but it also shows that there is a thinning on either side of that?

A. Correct, it's very -- It's only like three traces wide, and then it thins up dramatically on either side.

Q. Now, from this data you can't tell -- or can you tell how thick these pods are, just from this data?

A. Not -- I don't know. Probably not accurately enough to do -- Actually, you can get an idea, though, because you can measure the difference and the time difference that it takes to make that increased peak, you can apply that to the velocity difference of the Strawn and actually make a calculation. I have not done that, though. But there is mathematical relationships there that you could make some...

Q. Well, do you know what the differences -- In the thickness on that pod that you've got in the middle of those two productive pods, do you know what -- the difference in that on either side of that? I mean, would you be able to tell that?

A. Would I be able to tell what the thickness is of that pod in the center?

Q. And the difference -- How much does it thin to either side? I mean, is that something that you could quantify, or have done that?

A. Visually, I can do that for you. I don't have any real measurement tools with me right now to mathematically do it. But visually, especially as you go to the northeast on that Line C, it thins dramatically. And that's an area where -- If you drill in that type of a

signature, you're going to have a dry hole. And to the same -- Actually the same thing with the west.

You could fold this and compare it with -- This is a trick that geophysicists do all the time. You could fold this line and compare it with the dry holes on the other line, and you would see that it would be thin to the extent where other dry holes are.

Q. Well, in your opinion, is that middle section, is that something that you would drill a well on?

A. That would be an economic decision. I would think that there's potentially oil there, but it's probably going to be a little bit thinner, and you would have to map out the acre-foot and determine the price of oil to determine whether or not that's economically feasible.

Q. But in your opinion -- There may be oil in that pod, but it's not, in your opinion, connected to the pod on either side?

A. That's correct.

EXAMINER CATANACH: Mr. Carr, did you have any questions on this exhibit?

MR. CARR: Yeah, I actually do.

FURTHER EXAMINATION

BY MR. CARR:

Q. Mr. Silver, if we look at the line that runs between the Schenck and the Townsend, that's just an

arbitrary line, it's a straight line?

A. Right.

Q. The porosity, if it doesn't go in a straight line, might not be shown on that arbitrary line, correct?

A. Yes, that is correct, but it would show on the map.

Q. How thin does the porosity have to get before you can't see it? Is this back to 15 or 20 feet? Is that --

A. I would say that that's correct. You could have a 10-foot layer of porosity that you wouldn't be able to see on seismic, maybe five or 10 feet, you know, physically you could say that. But our indications out here have been pretty accurate that when you drill in that thin peak area, you're going to get a dry hole.

Q. When we use the data, the seismic isochron, Exhibit 10A, is it your testimony that you can judge the thickness of these pods from this information?

A. I would say that there's a relationship to the thickness. I couldn't give you an exact thickness, but you can say, yeah, this is obviously thicker than this one and...

Q. Do you have a copy of Exhibit Number 8?

A. Yes.

Q. Look at the Schenck well in the northwest of 11. What is the thickness there? Is that 12 feet?

A. It says 12 feet, and yet -- I know what you're going to say -- on the seismic it shows that it's fairly thick.

Q. And if we go to the Townsend Number 5, you've got 80 feet, right?

A. Correct.

Q. And yet when we look at your seismic isochron, you really can't tell from that, can you, whether it's 12 or 80, from that data alone?

A. I would say that the Townsend 5, because that peak is a little bit more broken out, is thicker than the Schenck well, but I wouldn't be able to give you absolute numbers.

Q. You couldn't say 12 --

A. No.

Q. -- as opposed to 80 --

A. No, I couldn't.

Q. -- or 30 as opposed to 75?

A. No, and --

Q. And likewise, you can't really tell us the thick of that structure between those two with any more accuracy than you could in the Schenck or the Townsend 5?

A. I would say, looking at the seismic data, that the Townsend 5 would be thicker than the Schenck, and the Schenck would be thicker than that pod in the middle there.

But I can't give you -- The seismic data is not fine enough to be able to give you absolute numbers.

MR. CARR: Thank you.

MR. BRUCE: Just one follow-up question of Mr. Silver.

FURTHER EXAMINATION

BY MR. BRUCE:

Q. On the Schenck and the Lusk Number 2, you don't have logs, so you don't really know what the thickness of that is, do you?

A. That's correct. I mean, what we might find is that it's thicker than -- We're just going off the perfs, yeah.

Q. Okay.

A. It might be a pretty good well, thicknesswise.

FURTHER EXAMINATION

BY MR. CARR:

Q. Is it your testimony that it might be thicker than 12 on the Schenck? Is that --

A. Yeah, because I don't have a log.

Q. But Exhibit Number 8 is the best call that your group made in interpreting that, right?

A. Yeah, that's based on the best information that we have available.

MR. BRUCE: That's all I have.

EXAMINER CATANACH: Okay.

BRYAN SAUNDERS,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Bryan Saunders.

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

A. Ocean Energy, and I'm a reservoir engineer.

Q. Have you previously testified before the Division?

A. Yes, I have.

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

A. Yes, they were.

Q. And are you familiar with engineering matters relating to the Strawn Pool in this area?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I'd tender Mr. Saunders as an expert engineer.

EXAMINER CATANACH: Any objection?

MR. CARR: No objection.

EXAMINER CATANACH: Mr. Saunders is so qualified.

Q. (By Mr. Bruce) Mr. Saunders, what does Exhibit

12 show?

A. Exhibit 12 is a graph of the daily production history for the Townsend State Number 5 well. We show several curves on this. There's a legend at the bottom of the graph that explains what those curves are.

What I'd like to do is to just point out that we'll be concentrating on the GOR, which are the blue dots, and the green curve, which is the daily oil production.

Q. Why don't you start -- You know, the well was producing early this year, and then it was shut in in March. What was the reason for that?

A. The reason we were shut in in March was to make up for overproduction on that well.

Q. And at that time it was what? Approximately 54,000 barrels overproduced?

A. Approximately, I believe.

Q. Why don't you start with that date and tell the Examiner what happened to the well and what the production rates show?

A. At the point we were asked to shut in the well, we had had it shut in for a while, and we had asked to have a reduced allowable so that we could -- We were concerned that there might be damage to the well by having it shut in, so we were allowed to bring the well back on about 150 barrels a day.

Q. That permission was granted by the Hobbs District Office?

A. That's correct. At the point we were given permission to do that, we went out and opened the well and tried to bring it back on production, and we could not get it to flow on its own. We actually had to swab several days to get the well back on production and producing.

Q. When it was producing at that 150 barrels of oil per day, what was significantly changed with respect to the gas-oil ratio in that well?

A. The gas-oil ratio climbed significantly, up into the 7000-to-8000 range once it was restored, and it was --

Q. It had previously been what?

A. It had previously been around 3000, just prior to shut-in.

Q. Okay, go ahead.

A. At that point, we had had a hearing, looking at adjusting the field rules for an increased GOR allowable for this field. And at that time, we had asked for some relief for the curtailment that we were seeing, mainly due to the response the well was showing with the high GORs like that, we were concerned that we were blowing down reservoir energy at that low rate, and that was part of that hearing.

Following that hearing, we contacted the Hobbs

District Office and asked if we might undertake some testing on the well to find out what a maximum efficient rate might be for this well, or an optimum way to produce it, to maximize the benefits for this well.

We were given permission to do that, and we initiated that testing in May and continued to produce it. And I think as you'll see, notice the trend, that the GOR did come down as we raised the production rate.

Q. Okay. Now, those tests were completed, and basically they're summarized on page 2 of this exhibit?

A. That's correct. What page 2 of that exhibit shows are average daily oil rates and gas rates during the testing and the resulting GOR for those tests.

And you'll notice that the GOR declines throughout the testing, as the oil rate is increased. Part of the agreement to do the testing with the Hobbs District Office was that we contact that office whenever we were going to have a rate change and let them know the results of our testing.

Following the end of that testing, if you'll refer back to page 1 again, you'll notice that the oil rate drops off sharply, back down to about the 150-barrel-a-day range, and that was within our agreement with Chris Williams of the District office.

Q. So basically, the essential point of this exhibit

is that producing at a -- First of all, if the well is completely shut in, you're worried about damage to the well?

A. That's correct.

Q. And if you produce at too low of a rate, then the GOR is substantially higher than producing at a more substantial rate; is that correct?

A. That's correct.

Q. And that could lead to a loss of reservoir energy?

A. Loss of reservoir energy and waste. I would like to make another comment.

Q. Sure.

A. The following week after we dropped the rate back, Chris Williams called our office, because I had left a message to find out exactly where we needed to be at for the testing, and he was out of the office. He called back the following week, and we discussed the results of the testing that we had done, and he subsequently gave approval to bring the rate back up to 250 to 300 barrels a day rate for the time being, to make up the overproduction.

Q. That was just a couple of days ago?

A. Yes, that was earlier this week.

Q. What is Exhibit 13, Mr. Saunders?

A. Exhibit 13 is a table of the oil and gas

production for the Townsend State Number 5 well. That has been provided to the State, and this was provided to Yates through the subpoena that's been discussed earlier.

Q. Okay. At this point, what is the approximate overproduction from the Townsend Number 5 well?

A. I'd estimate about 18,000 to 20,000 barrels overproduced at this point.

Q. Okay, so about 60 percent of the overproduction, maybe two-thirds of the overproduction, has been made up?

A. Yes, sir.

Q. What does Exhibit 14 show?

A. Exhibit 14 is just a volumetric calculation of the oil in place and some potential reserves that might be recovered, given that oil in place.

What it shows is that there is sufficient -- the Townsend 5 probably will not recover all the potential reserves within the porosity pod.

I will back up and say that the reservoir volume that I show on the sheet is based off the planimetered volume of the previous exhibit --

Q. Exhibit 8?

A. -- Exhibit 8, that Mr. Messa presented.

Q. Okay, and that there is sufficient volume in the reservoir to support the production from the Townsend Number 5?

A. Yes, sir.

Q. In fact, the Townsend Number 5 may not produce all the reserves from that particular porosity pod?

A. That's correct.

Q. One final question, regarding these porosity pods, is permeability good within a pod?

A. Yes, sir, very good, in response to the Townsend 5, exhibits very good permeability.

Q. Okay. So if wells are connected, you would expect -- If they were pressure-connected, you would expect similar pressures between wells; is that correct?

A. Yes, sir.

Q. Even if they're a half-mile away?

A. Certainly.

Q. Were Exhibits 12, 13 and 14 prepared you or under your supervision, Mr. Saunders?

A. Yes, sir.

Q. And in your opinion, is the granting of this Application in the interests of conservation and the prevention of waste?

A. Yes, sir.

MR. BRUCE: Mr. Examiner, I move the admission of Ocean's Exhibits 12 through 14.

EXAMINER CATANACH: Exhibits 12 through 14 will be admitted as evidence.

Mr. Carr?

MR. CARR: I have no objection to the admission to the exhibits, and I've got some questions.

CROSS-EXAMINATION

BY MR. CARR:

Q. What is reservoir pressure in the pod where the Townsend 5 is located, right now, Mr. Saunders?

A. I don't know what it is right now. It was last measured in March of this year and it was around 1300 pounds.

Q. So you have no current -- or no more recent pressure data than that?

A. No, sir, that's the latest that we have. We shut it -- We timed that pressure survey at the same time as we were shut in to make up field production.

Q. When I look at your Exhibit Number 12 --

A. Yes, sir.

Q. -- and the attached information, have you run any nodal calculations on this well and on the reservoir?

A. No, I have not.

Q. Have you considered simply installing artificial lift to deal with the problem that you experienced when you shut the well in? I mean, you're obviously having -- If I understand GORs, you've got it produced at a higher rate to have enough gas to lift the oil; is that right?

A. That's right.

Q. Wouldn't artificial lift correct that problem?

A. It might. We haven't evaluated that. But the fact that the well performs without any harm to the reservoir at those rates would say that there's a simpler solution at this point, as opposed to spending capital dollars on it, to try to get those same reserves we could get by producing the well naturally.

Q. At this point in time, can you tell us whether or not the well was damaged in any way by having production curtailed, as it was during March?

A. It's come back slowly, that's for sure, yes, sir. In talking with the field personnel, they seem to feel like the well is acting slightly different. Now, that's anecdotal, and I don't know how else to characterize it.

Q. When Mr. Maney testified earlier today about the development of this pod and your acreage in the southeast of Section 2, he indicated that you've been looking at the development of this nonstandard unit for several months. Have you been involved with this for several months?

A. I wasn't aware of the stranded 40-acre unit until a few months ago, about a month ago.

Q. What is the reason that now Ocean would like to drill another well in this pod?

A. Based on the recovery that we think is possible

from this pod, we don't believe that the Townsend 5 will recover all it is possible to recover from that pod.

Q. And that's based on your volumetric work?

A. Yes, sir.

Q. You testified at the May 4th hearing, did you not?

A. Yes, I did.

Q. And at that time you were asked by Mr. Catanach if the Townsend Number 5 would drain this pod, correct?

A. That's correct.

Q. And you testified at that time that it would?

A. Yes, sir.

Q. And you testified that no additional well would be drained in this particular pod?

A. Would be -- ?

Q. No additional well would be drilled?

A. Yes, sir.

Q. And that is not your testimony today?

A. That is not my testimony today.

Q. And at the time you came in as the reservoir engineer on the project, had you done any volumetric work on it whatsoever?

A. I believe as I stated in that, that I hadn't done the volumetric calculations.

Q. Were you part of this team that took a look at --

and developed Exhibit 8 and the mapping that is there?

A. I didn't provide any geological or...

Q. Did you put volumetric information into this, to compare the size of these features with the volumes that you're intending to extract therefrom?

A. I didn't affect that work. I drew my information from that work, if that's what you're asking. I'm not sure.

Q. Your volumetric work is based on this, is what you're saying?

A. Yes, sir.

Q. And when you look at this, is it your testimony today that the Townsend Number 5 will not drain the reserves that are in that porosity pod as mapped on Exhibit 8?

A. That's correct, sir.

Q. There is sort of a neck between two portions of this pod. It's about 40 feet thick. Do you believe the Townsend will not be able to effectively drain across that neck?

A. I think there's enough question that we're willing to take the business risk to drill that well.

Q. You understand that at the prior testimony there was concern expressed by Yates and others that it would be difficult to make up the overproduction if you only

curtailed the well to 300 barrels a day?

A. Yes, sir.

Q. What is the current producing rate from that well?

A. I'm guessing it's between 250 and 300 because of --

Q. A day?

A. A day, yes, sir.

Q. And what is the cumulative production from the well at this time? You testified 278, I think, in May?

A. Yes, sir. With June's estimates, which are field estimates, about 286,000, 287,000 barrels.

Q. When the decision was made to propose the additional well, were your volumetric figures presented to your management? Was that a portion of the decision to go forward with this?

A. Yes, sir.

Q. And what are the recoverable reserves that you're anticipating you can take from this pod at this time? Is that shown on your last exhibit?

A. Well, we feel like that probably about 100,000-plus barrels.

Q. And that's shown on -- based on Exhibit 14?

A. Yes, sir.

Q. And so you subtracted from this number what you

think you'll take from the Townsend 5, and that's what's left?

A. Yes, sir.

Q. What do you think is the total production you will achieve from the Townsend?

A. About 400,000 barrels.

Q. And what recovery factor?

A. Well, that would be between 30- and 40-percent recovery factor.

Q. What's the reservoir drive mechanism for this reservoir?

A. It's gas drive, solution gas drive.

Q. And have you worked with other solution gas drive reservoirs?

A. Yes, sir.

Q. And in your experience, is it typical to recover between 30 and 40 percent of the reserves?

A. In high-porosity carbonate reservoirs there have been cases of that, yes, sir.

Q. There have been cases, but is that what you would expect? Is that a realistic recovery factor for this reservoir?

A. Based on performance, it appears to be. In addition, the testimony presented by Mr. Pearson of a 50-percent recovery factor puts at the low end.

Q. Are you testifying you think a 50-percent recovery factor is attainable here?

A. It seems to be in the realm of possibilities. If there's a volatile-oil component to this reservoir, that's definitely in the possibilities.

Q. You're requesting authority for a nonstandard unit on which you plan to drill the Townsend --

A. Yes, sir.

Q. What allowable are you recommending be assigned to that well?

A. At this point we'd like a proportional allowable, which would be a half allowable, or half --

Q. So what is the allowable for 80? 445?

A. 445, yes, sir.

Q. So you're asking for half of 445 for that well?

A. Yes, sir, at this point.

Q. And so that plus the -- 300 you're authorized to produce, now, out of the Townsend 5?

A. Yes, sir.

Q. Would increase your withdrawal from that pod to 522 barrels a day; is that correct?

A. Yes, sir.

Q. And it's still your testimony that this pod is isolated and separate from other Strawn pods in the South Big Dog-Strawn Pool?

A. Yes, sir.
Q. And you will honor those allowable limits?
A. Yes, sir.
Q. When we look at your observed calculation, we look at your porosity figure, at 8.5 percent?
A. Yes, sir.
Q. How did you get that?
A. A foot-by-foot calcula- -- or review of the logs.
Q. So you took logs on the Townsend 5?
A. Yes, sir.
Q. You did a foot-by-foot measurement, and then you totaled and averaged?
A. Yes, sir.
Q. And you came up with 8.5 percent?
A. Yes, sir.
Q. When we do the water-saturation figure you have here of 20 percent, how did you get that?
A. Basically a similar method. I did a foot-by-foot measurement -- or reading of the induction log and then applied that to a water-saturation calculation.
Q. And did you use an Archie's calculation for this, or did you do a foot-by-foot measurement?
A. Well, it's an Archie calculation, or a modified Archie calculation, foot by foot.
Q. But you did the entire interval foot by foot?

A. Yes, sir.

Q. Your oil -- We have to accept your reservoir volume, I guess, that's -- When we look at this number, 4100, is that just planimetering the reservoir?

A. And the contours, yes, sir.

Q. And that's based on Exhibit Number 8?

A. Yes, sir.

Q. Then we get to the oil formation volume factor?

A. Yes, sir.

Q. And how was that obtained?

A. PVT data.

Q. Did you use actual PVT data?

A. Yes, sir.

Q. How were the samples handled? Did you take special concern with this volatile oil to --

A. That was before I became involved in the project, so I assume they used a standard sampling practice.

Q. And you don't know exactly how it was handled. Who did it? Who did the analysis for you?

A. Core Laboratories.

Q. So you don't know reservoir pressure at the time the sample was taken or how it was collected?

A. They were taken under initial reservoir conditions, so I'm sure they observed the drawdown, and, plus, the well was above bubble-point pressure at the time

the sampling was done.

MR. CARR: Thank you very much.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Saunders, what do you estimate to recover from the Number 11 well?

A. 100,000 plus, somewhere between 100,000 to 150,000 barrels.

Q. Okay. And did you say that you had already made up two-thirds of your overproduction on the Number 5 well?

A. Yes, sir, we're about 18,000 to 20,000 barrels overproduced at this point.

Q. And you're producing 300 barrels a day.

A. Yes, sir, at this point.

Q. Do you know how long that authority extends till?

A. No, sir. When I talked to Chris Williams he said just, you know, put it the 250- to 300-barrel-a-day range and make it up. At that rate, it's going to take about four months, four months plus, to make up all the overproduction.

Q. At what GOR is that producing?

A. I don't know. Right now it's still stabilizing. I assume it's back at the same, you know, 2400, 2500 GOR.

EXAMINER CATANACH: That's all I have.

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

I have nothing further in this matter.

EXAMINER CATANACH: Mr. Carr?

MR. CARR: Are you ready to go forward, sir?

EXAMINER CATANACH: Yeah, let's take a ten-minute break here before we start.

(Thereupon, a recess was taken at 12:43 p.m.)

(The following proceedings had at 12:55 p.m.)

EXAMINER CATANACH: Okay, we'll call the hearing back to order, and I believe it's Yates' turn.

MR. CARR: Thank you, Mr. Examiner. At this time we call Dave Pearson.

DAVID PEARSON,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. David Pearson.

Q. Where do you reside?

A. Artesia, New Mexico.

Q. By whom are you employed?

A. Yates Petroleum.

Q. Mr. Pearson, have you previously testified before the Oil Conservation Division?

A. Yes.

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

A. Yes, they were.

Q. Are you familiar with the Application filed in this case on behalf of Ocean Energy Resources, Inc.?

A. Yes, I am.

Q. Have you made an engineering study of the area which is the subject of this Application?

A. Yes, I have.

Q. Are you prepared to share the results of that work with Mr. Catanach?

A. Yes, I am.

MR. CARR: We tender Mr. Pearson as an expert witness in petroleum engineering.

EXAMINER CATANACH: Any objection?

MR. BRUCE: No, sir.

EXAMINER CATANACH: Mr. Pearson is so qualified.

Q. (By Mr. Carr) Mr. Pearson, would you briefly summarize what it is that Yates Petroleum Corporation, David Petroleum Corporation, McMillan Production Company and Permian Exploration Corporation seek in this case?

A. We basically seek three things. First, we would like to see the Application of Ocean Energy denied. Second, if the Application is approved, we'd like to see

the allowable for the well to be set at 222 barrels a day. And third, if the Application is approved, we would also like the approval not to be effective until Ocean has made up the overproduction from the Townsend Number 5.

Q. Have you prepared exhibits for presentation here today?

A. Yes, I have.

Q. Would you refer to what has been marked for identification as Yates Exhibit Number 1, identify it and review it for Mr. Catanach?

A. Yates Exhibit Number 1 is the plat -- or excuse me, is the isopach map submitted by Ocean Energy in the May 4th hearing concerning the overproduced status of the Townsend State Well Number 5. That well is located 330 feet from the south and 1520 feet from the east line of Section 2, 16 South, 35 East. It's directly south of the proposed offset that the hearing today is being held about.

What the map was represented to show was the thickness -- is an isopach map with a zero isopach map line showing the thickness of the porous interval encountered by various wells in the area. The relevance of the map is that it was the map that was presented by Ocean, and presented again in essentially the same form today, used as the basis for their volumetric calculations.

Q. Mr. Pearson, were you present for Mr. Saunders'

testimony, and in particular his presentation of Ocean's volumetric calculations?

A. Yes, I was.

Q. Do you agree with those calculations?

A. No, I don't.

Q. And how do you disagree?

A. If you at the calculations, with the exception of the acre-feet that's enclosed within the zero isopach of this porosity pod shown in the southeast quarter of Section 2, every one of the input values is slanted so as to benefit Ocean's representation in this case that there's a large amount of oil, or there's a sufficient amount of oil in place here to justify not only the Townsend 5 and the overproduction, but an additional well.

Q. Have you prepared volumetric calculations on this particular pod?

A. I have.

Q. Let me direct your attention to what has been marked Ocean Exhibit 14, or Yates Exhibit Number 5 -- we include it just -- which are the reserve calculations presented by Mr. Saunders. I'd like you to first go to the reservoir-volume figure and explain the source of that particular number.

A. The reservoir volume as I calculate it, and as I understand Mr. Saunders has calculated it, was obtained by

planimetry and mathematical calculation of each of the contour lines. On my behalf, I can speak at least that it is that pod of porosity encountered by the Townsend Number 5 in the southeast quarter of Section 2. And essentially we arrived at the same value.

Q. And in arriving at the same value, did you have a different geological interpretation to work from?

A. No, I used the same -- We used their map.

Q. And so what you're saying is that you planimetered their map and came up with the same number? You both planimetered the same?

A. Yeah, mine is 60 acre-feet higher than his number, so essentially the same.

Q. Let's go to Yates Exhibit Number 2, your petrophysical analysis of the Ocean Townsend 5 well logs.

A. All right. Yates Exhibit Number 2 is a -- and I did two feet by two feet, because it's a fairly objective way of looking at the log. You can look at the crossings, the density curve on actual crossings of the depth scale. Because Ocean Energy operated the well, I wasn't able to have a copy of the LAS file, so I couldn't do half the calculations, which would be the most desirable way to go through that.

But basically what I've done on this exhibit is to show where the main pay zone, where the Strawn pay was

on the Ocean Energy Townsend Number 5 log, which is the only penetration in the pod under discussion at this time.

I've included a copy of the log, attached to the back both the neutron-density photoelectric-effect log and the resistivity logs that were run on the well.

In my analysis, it looks like the main Strawn pay zone is from 11,450 feet to 11,542. In the whole area at this time there doesn't seem to be any core data available, or there isn't any that I could find, so I assumed that the Archie exponents that would be appropriate to use here would be an m and n of 2, and I used a water saturation of .07, measured from some samples we've taken from wells that we operate. At bottomhole temperature, corrected to bottomhole temperature, the resistivity is .07. I just used a standard Archie equation, which I've shown there.

And then the table that you see on here are the values that I read every two feet, porosity value, the resistivity value that was used as an input into the Archie -- or both those were used as inputs into the Archie equation, and then the corresponding water-saturation value that was calculated for that interval. And my goal was to try to be objective, rather than picking one foot or picking -- trying to block it and pick some average value.

What I did then was to sum up across the entire porous interval that's represented on this isopach map as

pay, to get the average porosity. The average value I calculated was 6.9 percent.

I also summed up the water-saturation calculation, every-two-foot water-saturation calculations. The average value that I got as a function of doing that was .32. You'll note that the highest values are essentially -- are at the very low porosity values. There's some half-percent porosity values through there, and those are set to be equal to 1.

You'll also note that the lowest value calculated in the entire calculation, there's one value that's 17-percent water saturation, one value that's 19-percent water saturation. The remainder of the values are running -- Excuse me, there's one value that's also 14 percent. The other 45 values or so are running in the 20- to 30-some-odd, a little higher than 30-percent range. And the result of that was that the average water saturation that I calculated, summing these up, was 32 percent.

Q. Mr. Pearson, you achieved a porosity value of 6.9 percent?

A. That's correct.

Q. Mr. Saunders' porosity value was 8.5 percent?

A. That's correct.

Q. What effect does a higher porosity value, as obtained by Ocean, have? Or what impact does this have on

the volumetric calculation?

A. It increases the original oil in place in the pod, so at any given recovery factor you would recover more oil.

Q. So it intends to increase the volume of the oil in the pod?

A. That's correct.

Q. Now, you obtained a 32-percent water-saturation value?

A. That's correct.

Q. Mr. Saunders obtained a 20-percent value?

A. That's correct.

Q. What impact on the volumetric calculation does Ocean's lower water-saturation figure have?

A. Actually, this is one of the two most material impacts, the differences in our calculations. There's about a 50-percent difference in the value of those two water-saturation numbers, and Ocean's number would significantly increase the reserves in place in the pod. What I believe is the more accurately and rigorously calculated value would reduce the reserves from what Ocean has calculated.

Q. Would you refer to what has been marked as Yates Exhibit Number 3 and review for the Examiner how you obtained your oil-formation volume factor?

A. Exhibit Number 3 is the same summary of PVT data obtained from the Runnels Number 3 well that was presented in the hearing on this area May 4th. It is a specialized analysis done by Core Laboratories in Dallas on the fluid sample taken from the Runnels 3 immediately after completion of the well.

Well, I supervised the sampling of the well and the processing of the fluid sample. The well was sampled after approximately three or four days of production. We ran a shut-in and measured the bottomhole pressure at the time it was collected. We collected two samples, two bottomhole samples.

The samples were then sent to Core Lab to be analyzed.

Core Lab did some preliminary analysis on them and calculated a preliminary bubble point and reported to us that this looked like a volatile oil system and that it would be necessary to do specialized processing on this sample, the reason being because if you handle these samples in a normal fashion, just send them to Core Lab and let Core Lab process them the way they would, what you end up with is getting a significant error. You get far too low of a formation volume factor, your viscosities are generally wrong, and your initial solution gas ratio is usually off because of the volatile -- or because of the

unusual amount of light hydrocarbon in the sample. It's a significantly more expensive procedure to go through, and it's not routinely done by most operators.

The main conclusions to draw away from this, as was reported before, the solution gas-oil ratio is about 2800, the GOR solution gas-oil ratio is about 2780 standard cubic feet per barrel of oil, the formation volume factor at bubble point is approximately 2.65 reservoir barrels per stock-tank barrel of residual oil at 60 degrees and 14.65 p.s.i.

Q. How does your oil formation volume factor compare to that used by Ocean?

A. The oil formation volume factor that we used is significantly larger than the formation volume factor used by Ocean.

Q. And what impact does that have on a volumetric calculation?

A. It's the other material difference in our two calculations. He used a value of about 1.86 or 1.856. Using the value -- the more accurate value measured from our sample, there's a significant difference between those two, and that flows directly through to the original oil in place.

The effect of that would be to significantly boost -- The effect of using a lower formation volume

factor than the accurate one, would be to significantly boost the original oil in place in the pod that the Townsend 5 is completed in.

Q. Mr. Pearson, what conclusions can you reach from your volumetric work and your review of the volumetric calculations of Ocean Energy?

A. I believe the work that I've done is somewhat more rigorous, significantly more rigorous, particularly with respect to the PVT sampling and with respect to the porosity and water-saturation calculations.

Q. And what conclusion do you reach concerning Ocean's calculation?

A. Every factor that was easily adjustable in the calculation, where we didn't have access to the data to show how they got that factor, they have slanted in their favor. By doing that, they've made the original oil in place significantly larger, and they've also made the recoverable -- By extension, at any given recovery factor, that then makes the recoverable oil in place for any given mapped volume larger.

My perception is that they used these figures to justify their mapping. It turns out to be really a convenient fit with what they're thinking they're going to get out of the Townsend Number 5. Last hearing they testified that only a certain amount was going to come out.

Now they think that maybe another 100,000 barrels is going to come out of there. And these numbers seem to sort of fit together.

Q. Ocean used a 30-percent recovery factor. In your opinion, is the use of a 30-percent recovery factor in a solution gas drive reservoir appropriate?

A. I believe that's inappropriate for a solution gas drive reservoir.

Q. And you've worked with solution drive gas reservoirs in the past?

A. Ten years.

Q. What sort of a recovery factor do you think would be -- or what sort of a range would be appropriate?

A. Twelve to 18 percent, and one like this where the permeability is higher, I think probably a higher, a 16-, 18-percent recovery factor is realistic.

Q. Did you ever recommend or suggest 50 percent was an appropriate recovery factor?

A. No, I believe my testimony was misrepresented. What I said was it would require -- that I had done volumetric calculations on a map that looked very similar to this, and that it would require nearly a 50-percent recovery factor to get as much oil out of that map as they were saying would come out.

Q. Do you think 40 or 50 percent is reasonable in

any circumstance for a solution gas drive reservoir?

A. No, I couldn't say in any circumstance, because there's always a unique circumstance. I think it's probably unreasonable for this situation, especially given that their reservoir pressure is already down. They've drawn the reservoir pressure down from 4150 pounds, or 4100 pounds, to 1300 pounds.

Q. Let's go to Yates Exhibit Number 4. Would you identify and review this, please?

A. Yates Exhibit Number 4 is a volumetric calculation that was prepared originally in response to Examiner Catanach's request following the May 4th hearing.

Q. What does this show you?

A. It shows you from some mapping that was done, as cited earlier by Ocean in its testimony, some mapping that was done in 1997 or 1998. The first two parts of that are leftovers from that map.

The lower part, lower half of the page is what I'd like to draw your attention to. What it is, it's from Ocean's map, or from the exhibit that they represented in the May 4th hearing, which we presented as our Exhibit Number 1, the planimetry calculations, then an original-oil-in-place calculation using the porosity values and water saturation values that I presented in the prior to exhibits and the formation volume factor from our PVT sample.

What it shows is original oil in place of approximately 572,000 stock tank barrels. From the map as Ocean Energy has -- It shows that the map original-oil-in-place volume, using Ocean Energy's representation of the extent of the porosity, it would be 572,000 barrels, stock tank barrels.

Q. When you look at Ocean's volumetric map, you compare it to this volume. Is the map large enough to contain...

A. The map that they have -- Excuse me, would you repeat the question?

Q. My question is, does Ocean's volumetric map, is it big enough to contain the reserves that you've calculated?

A. Their map is big enough to contain the reserves that I've calculated. I don't believe that their map shows an extent -- enough porosity to contain the reserves that they calculated as original oil in place. There's almost a factor-of-two difference. It's the sum of taking these small values and slanting them one direction or the other.

Q. How does this information relate to Yates' request that this Application be denied?

A. Essentially what you're left with is a choice. Either you believe Ocean Energy's map, which shows that there is 575,000 barrels in place, or about -- a little

over a million barrels in place, even though they've testified here today that they can't see the limits of porosity between about 15 or 20 feet thick. They've represented a zero isopach line on that map.

You're going to have to make a choice. You're either going to have to believe the map and believe that the recoverable oil from the map at a 30- or 40- or 50-percent recovery factor for a solution gas drive reservoir is only coming from acreage in Section 2, or you're going to have to, depending on your experience and the more rigorous analysis that I've done, and say that that map can't be correct and that the porosity has to extend to the southwest where there's no well control, until you get down to the Schenck in Section 11.

There is porosity in the Schenck, there is porosity in the Shell Lusk Number 2, there's porosity in the Runnels 3. There are no zero control points to the south or southwest of the Townsend Number 5. The northern end of their map is bounded by essentially zero control points.

Q. Mr. Pearson, in the prior hearing there were questions concerning the ability of Ocean to make up the overproduction from the Townsend State Well Number 5. How does what Ocean is requesting here today impact their ability to make up the overproduction?

A. It is going to negatively affect their ability to make up the overproduction.

They already have a severely depleted reservoir at 1300 pounds, somewhat lower than 1300 pounds, we don't know the exact value. They have 18,000 or 20,000 barrels of oil remaining to be produced. They're going, by their own admission, to put another straw into the same tank and accelerate the production from that tank.

If indeed they accelerate the production from that tank, there's only a finite oil left to come out of that, whether you agree with this map or whether you don't agree with it. You're going to take it out of another well, and they may never make up the overproduction from the Townsend Number 5.

Q. Mr. Pearson, in your opinion are reserves being drained from properties in which Yates Petroleum Corporation, David Petroleum Corporation and others, own interest?

A. Yes, I believe it is, and I think the data shows that that's the only reasonable interpretation of the geologic and geophysical controls available.

Q. In your opinion, has there been drainage from the Yates Shell Lusk Number 2 well in Section 11?

A. Yes, there is. The Shell Lusk Number 2 -- Yes, there has been. The Shell Lusk Number 2 was originally

completed, and the reservoir -- before any withdrawals were made from that well, we measured the reservoir pressure, and the reservoir pressure was drawn down about 300 pounds.

In addition, the Schenck was depleted somewhat farther. It was drilled, completed and the pressure was measured, and the pressure was drawn down in that well.

Q. Mr. Pearson, Yates is also requesting that if the Application should be granted, the effective date of that would be at the same time as the overproduction on the Townsend Number 5 is made up; is that correct?

A. That's correct.

Q. What impact on your correlative rights would there be if the Application is approved immediately and the additional reserves are being removed from this porosity pod?

A. It would negatively impact our -- or would impair our correlative rights. It would increase their ability to drain the acreage in Section 11 that is leased to Yates.

Q. And once the overproduction is made up, then at that time if the Division sees fit to approve the Application, at that time it is Yates' recommendation that the allowable numbers recommended by Mr. Saunders are appropriate; you concur in those, do you not?

A. Yes.

Q. If this Application is approved today, as a

result of today's hearing, just straight approval, would the approval of this Application have any impact on further development in this area?

A. Yes, it will. We will have to take a serious look at drilling a second, probably uneconomic, well in the area.

Ocean Energy is going to drill a well that will cost $800,000 and recover 100,000 barrels of reserves, and in order to effectively protect our correlative rights, we'd probably have to drill another well 330 off the lease line, somewhere between the Shell Lusk Number 2 and the Townsend Number 5.

Q. Mr. Pearson, were Yates Exhibits 1 through either prepared by you or compiled under your direction?

A. They were.

MR. CARR: At this time, Mr. Catanach, we would move the admission into evidence of Yates Exhibits 1 through 5?

EXAMINER CATANACH: Any objection?

MR. BRUCE: No, sir.

EXAMINER CATANACH: Exhibits 1 through 5 will be admitted as evidence.

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

EXAMINER CATANACH: Mr. Bruce?

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Mr. Pearson, there's never been an impediment to Yates drilling a well in the northeast quarter of the northwest quarter of Section 11, has there?

A. Actually, Mr. Bruce, there has been. The spacing rules for the Big Dog South Pool require you to be some distance away from and offsetting the well.

Q. 1020 feet?

A. I believe that's correct.

Q. Is there a location in the northeast quarter of the northwest quarter that would be 1020 feet away from other wells in the pool?

A. I presume that there will be one. I don't have the Shell Lusk on the map, but I have -- Excuse me, I don't have the Schenck location on the map that I have in front of me, and as you -- So I can't tell you conclusively, but I presume that there is one.

Q. A quarter-quarter section is 1320 feet wide, 1320 feet high, isn't it?

A. Yes.

Q. What is the current pressure on the Schenck well?

A. I don't know.

Q. You just testified that there was some pressure drawdown in the Schenck well?

A. That's correct, I testified that before there was any production from the Schenck well there was pressure drawdown. I did not testify that I knew what the pressure is right now.

Q. Right now? What was it originally?

A. It's -- I don't know off the top of my head. I'll have to look in the materials that were submitted after the May 4th hearing.

Q. Well, I've looked at those materials, and there's nothing on the Schenck well in that data, Mr. Pearson. I would like to have that data. We asked for it. It was promised at the last hearing.

When was the Schenck well completed?

A. I don't know off the top of my head.

Q. And you don't know the pressure?

A. No, Mr. Bruce, that's not what I said. I said I don't know what the pressure is today.

Q. Okay, what was the pressure originally?

A. It was in the materials. If it's not in the materials, it's simply an oversight and I will make sure that it gets there. It was drawn down essentially the same as the Shell Lusk Number 2 pressure, but I don't know the exact value. It's going to be something in --

Q. 3800?

A. 3700, 3800 pounds, around there. I don't mean to

be difficult, I apologize. I just don't know the exact value.

MR. BRUCE: Mr. Examiner, I would like that data.

MR. CARR: We'll provide that data.

THE WITNESS: We apologize if it wasn't in the package. There were eight or ten in there, and I thought that it was included. If it hasn't been, that's an oversight on our part and I apologize.

Q. (By Mr. Bruce) With respect to your Exhibit 4, you're showing the formation volume factor is 2.65?

A. Correct, 2.65 reservoir barrels per --

Q. Okay.

A. -- stock tank, right.

Q. Now, on the data that was submitted a few days ago with respect to the prior hearing, didn't you use a different figure?

A. I don't think so. I think this was taken directly from that data. Do you have a different value, different -- If it is, it's a misprint. I have a copy, we have copies of that data, and if it is I'll be happy to look at it and stand corrected.

Q. Okay. I'll provide that to the Examiner in a minute. Is that a different value?

A. That is correct, that's a value calculated from correlations before the PVT sample was measured. It's very

similar to the value, interestingly enough, that you all are using in your calculations. Typically, there's a problem with correlations in volatile oils. This is -- If you'll read carefully on this exhibit, what you'll find is, that is the original calculation we did before the Runnels 3 was drilled, when the only data available was from correlations.

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

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Pearson, you used the PVT data from the Runnels Number 3; is that correct?

THE WITNESS: Jim, do you want this back?

MR. BRUCE: Yes.

THE WITNESS: That's correct.

Q. (By Examiner Catanach) And have you run other PVT samples in other Strawn pods in this area?

A. No, that's the only one we've run.

Q. How do you know that that is similar to the one for the Townsend pod?

A. Based on the API gravity and initial producing GORs reported for that well -- In fact, you probably can go to the exhibit prepared by Mr. Saunders, and if it goes far enough back in history, you'll see a GOR from before we got below the bubble point or right after we got below the

bubble point, and I think it matches fairly well with the GOR that was measured in this PVT sample.

We operate -- I'm not sure about the exact count -- four or five wells in Section 11, and with the exception of -- they have similar properties, in terms of API gravity and the translucence of the oil and the GOR performance.

Q. Now, I haven't looked at the data that you submitted from the last hearing, but your testimony is that the Schenck and the Lusk well were drilled at a certain point in time, and prior to any production from those wells, you had a pressure drop in those wells?

A. That's correct. In the data that I submitted to you, there are a series of pressure tests taken on initial completion of the well and a combination of that and DSTs before there's been any production, and what you see is from north to south, at a common datum, a slight increase in pressure. You start at about 4100 pounds at the Townsend 5, and as you come farther south you get up to 4150 or 4190, something in that ball park.

The Shell Lusk Number 2 and the Schenck Number 1 were both drawn down, and my recollection is that it was 300 pounds relative to that average or initial reservoir pressure value, they were in the 3700-, 3800-pound range.

Q. So they were drawn down about -- Did you say 300

pounds?

A. I believe so, between 300 and 400 pounds. Again, I don't have the data in front of me, but it's in the data that you have.

Q. Were those two wells drilled about the same time, or --

A. Yes, they were drilled and completed essentially at the same time. The Schenck is a deepening. At one point we had five rigs running in that section. The Schenck is a deepening of an existing well, Shell Lusk was drilled from the surface. So they were drilled and completed within a month -- my recollection is, it was within a month, and at least there were two months, and neither of them was placed on production. Essentially the pressure measurements were conducted before either was placed on production.

Q. How long were those wells drilled after the Townsend 5?

A. You know, I don't know off the top of my head. I'm going to refer to Exhibit Number 1, which I believe is the dates those were drilled. The Townsend 5 shows November, 1998, and the Shell Lusk shows September, 1999.

There had been roughly -- My recollection is, there had been 180,000 or 200,000 barrels production from the Townsend at the time those wells were drilled, but I

don't have the data to know for sure. There had been a substantial amount of production from the Townsend 5 at the time the wells were drilled. I don't know the exact number.

Q. And you don't know what the reservoir pressure was in the Townsend 5 at the time those wells were drilled?

A. No, the -- I did not. I do, I believe, now. In the data that was provided to you by Ocean Energy, there should be a pressure measurement that shows that reservoir pressure at the Townsend 5 was somewhere between 3000 and 1300 pounds.

So there was a significant pressure differential between the Townsend 5 and the Shell Lusk Number 2 and the Schenck.

Q. Well, what does that say to you? Does that say that there is some communication but not a lot?

A. That would be the way I would interpret it. Ocean did not provide the actual data for the 3000-pound pressure measurement, so I can't see how it was derived, whether -- You know, I can't judge the confidence to place in that. It appears to me that there's poor communication between the wells. There is communication, but it's not very good communication.

Q. From what you've seen of the geological interpretations, is there any other explanation to why your

wells would show that pressure drop?

A. I think yes, actually I think there is. The Runnels 3 I don't believe could have contributed for the pressure drop, because it had just been brought on production. Again, I'm basically working from the dates that are here on Exhibit Number 1. The Runnels 3 had only produced about 30,000 or 40,000 barrels, if my memory is right, and it's essentially the same distance away from those two wells.

The other well that could have produced that pressure drop and stands a higher likelihood of having done it than Runnels 3 would be the Runnels Number 2 to the south and east of those wells.

But you'll note that there's a dry hole between the Runnels Number 2, or a well with no Strawn porosity, between the Runnels Number 2 and the Shell Lusk Number 2 and the Schenck. And I can't beat the drum that it absolutely had to be from the Townsend 5, but it seems to me, based on the fact that there's no well control between those two, and our geologic interpretation, which is somewhat different from Ocean's, that the most likely candidate to have drained that well is the Townsend Number 5.

Q. How long would it take to drill and then get a well on production in this area?

A. Drilling it would be about a -- assuming that all the land, from the point that you had a permit and all the land issues taken care of, it's about a 30- or 35-day exercise, probably another week and a half or two weeks, so 45 days from the point that you had a built location and all the land issues taken care of, permitting and all that.

Q. So from spudding to actually sending some oil down the pipeline --

A. Forty-five days.

Q. Forty-five days?

A. Yeah, I think.

Q. And it's their testimony, Ocean's testimony, that the overproduction should be made up within a four-month period, so you're looking at about a two-month period in which they would be allowed to produce that second well at the reduced allowable. Are you testifying that that's going to harm Yates' correlative rights?

A. I believe allowing a second well to be put in that pod that's already being depleted by one well is economic waste and is going to harm Yates' correlative rights. That would be my testimony.

Q. Well, Mr. Pearson, there is no rule that would preclude any operator from drilling a second well into a pod on a standard proration unit.

A. Okay. I understand --

Q. I mean, the allowable is set -- I understand this is a little bit different because you've got an extra 40 acres in there, but there's nothing -- certainly on an 80-acre unit there's nothing that precludes an operator from drilling a second well on each 40, or a well on each 40.

A. I understand, and I guess aside from the economic waste of a well that I don't think Ocean should be drilling, it may put us in a position where we feel compelled to drill a well to protect our correlative rights as near as possible to the Townsend, as near as the field rules allow to the Townsend 5.

Further, it's Yates' contention and my analysis of this that the map that you see in Exhibit Number 1 is significantly in error and that there is continuous porosity, perhaps thinner than 20 feet but continuous porosity, nonetheless, between the Schenck Number 1, Shell Lusk Number 2 and the Townsend 5. That would account for the unusual performance of the Townsend Number 5.

And if you allow them to put a second well, you're giving them an additional 200-barrel-a-day, 220-barrel-a-day allowable to add on to the 445 that they'll get back in two and a half or three months and make them able to more effectively drain reserves that lie under the Yates acreage.

Q. Based on your reserve calculations, how much is

that Townsend 5 going to recover?

A. I would not disagree with Mr. Saunders' estimate of about 400,000 barrels, from a decline-curve-analysis-type approach, material-balance-type approach.

Q. I thought your reserve calculations showed about 500,000 barrels for that pod?

A. My volumetric calculations show that there were only 572,000 barrels in the pod as Ocean has represented it to you in this hearing. We don't believe that that's a correct map.

Q. Okay.

A. I think that the pod has got to be about three times the size of the way they show it. To recover 400,000 or 500,000 barrels in a solution gas drive reservoir, you're going to need original oil in place, you know, on the order of 2 million barrels, or 2 1/2 million barrels.

Q. Have you constructed any maps that actually show the connection between those two pods, and have you done any reserve calculations based on that?

A. I have constructed some maps. I think we'll have some geologic testimony in a minute, maybe a little better qualified. Actually, I haven't constructed the maps; our geoscientists have constructed the maps, and I've done reserve calculations based on that.

Q. And do those reserve calculations more accurately

depict what you think is the situation here?

A. Yes, I do. I apologize for making you drag it out of me. The picture that we would draw would show considerably higher continuity in the area than what you see from the pods that are drawn on here.

As an example of the disconnect between the size of the pods that are drawn on Ocean Energy's map and the mapping as we would do it, is the fact that the Runnels "ASP" has produced over 180,000 barrels at this point in time.

On Ocean Energy's map they would show the maximum thickness of that reservoir as 60 feet thick and approximately half the areal extent of the reservoir that the show the Townsend 5 being in.

We, as Mr. Bruce rightly cited earlier in the hearing, had an early interpretation that looked similar to theirs.

We've done additional work, we processed our data differently. That's why we wanted it subpoenaed from them: We wanted to see what they were looking at. We interpret the data differently than they do, and our map shows substantially more continuity and realistic volumes of original oil in place in Section 11 and in Section 2, and it shows...

Q. Does your data show any connection between the

Runnels and the Townsend?

A. It's actually a point of disagreement inside of our organization. I stand by Ocean's pressure data and our pressure data that shows that they are, and the seismic data looks like that there is continuity between those two wells.

The problem is one of vertical resolution. I would disagree somewhat with -- and our geophysicists disagree somewhat with the prior statement, but we don't think you could -- Our data is a little lower frequency, so we don't think we can see porosity thinner than about 40 feet. Their data is higher frequency. They think they can see down to a minimum of 20 feet.

In either case, you could have 15 feet of porosity or 20 feet of porosity that is invisible, cannot be detected by the seismic, just because of the physics. You can't measure -- In these rocks, you can't directly measure porosity with seismic, and you certainly can't measure permeability with seismic.

EXAMINER CATANACH: That's all I have.

Anything else?

MR. BRUCE: Nothing further on this witness.

EXAMINER CATANACH: Okay.

MR. CARR: At this time, Mr. Catanach, we call Keith McKamey.

KEITH E. McKAMEY,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Keith McKamey.

Q. Spell your last name.

A. M-c-K-a-m-e-y.

Q. Mr. McKamey, where do you reside?

A. Artesia, New Mexico.

Q. By whom are you employed?

A. David Petroleum.

Q. And what is your current position with David Petroleum?

A. Senior geologist.

Q. Have you previously testified before this Division?

A. I have.

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

A. They were.

Q. Are you familiar with the Application filed in this case on behalf of Ocean Energy Resources, Inc.?

A. I am.

Q. Have you made a study of the area surrounding the proposed well?

A. I have.

Q. Are you prepared to share your work with Mr. Catanach?

A. Yes, sir, I will.

MR. CARR: Are Mr. McKamey's qualifications acceptable?

EXAMINER CATANACH: They are.

Q. (By Mr. Carr) Mr. McKamey, what is David Petroleum Corporation's interest in this case?

A. David Petroleum, McMillan Producing Company, and PXC, which is Permian Exploration, jointly own approximately 50 percent working interest in Section 11.

Q. Let's go to what has been marked as David Exhibit Number 1. Would you identify it and review it for Mr. Catanach?

A. Mr. Examiner, this is a stick map of the 3-D seismic shoot in the area covering Section 2 and Section 11. The section corners are outlined in black. The red line is the line of cross-section, which is Exhibit Number 3. It runs north-south from the Townsend 5 well, through the Runnels 3, down to the Runnels 2, and it's an arbitrary line that we picked off the computer that shows porosity,

that shows that those two wells are in communication, appear to be in communication through seismic.

Q. Mr. McKamey, are you ready to go to your next exhibit?

A. Yes, I am.

Q. Exhibit Number 2, your seismic cross-section, will you review that for Mr. Catanach?

A. Exhibit Number 2 is the 3-D line that's shown on Exhibit Number 1. It is a Hilbert transform technique, which is a 270-degree phase shift to image the porosity in the Strawn reservoir. The location of the line is the north-south line. It illustrates producible reserve signatures that are consistent from the Townsend 5 to the Runnels 3, based on the resolution of data.

This line shows a thickening or the peak where it's found, that's where production is found. I might point out that the thickening in that peak occurs from the Ocean Townsend Number 5 all the way through the Runnels Number 3, thereby showing that there is some -- the seismic suggests there is some connectivity. And I feel like the resolution of this data is probably on the order of 50 feet vertically and 110 feet horizontally.

Q. Using this data, can you determine the zero line in these reservoir pods?

A. No, we cannot.

Q. Can you see less, did you say, than an amount -- What was it, 30 feet?

A. Approximately 50 feet vertical resolution, so I probably could not see anything less than 50 feet.

Q. So a zero would be the same as 50 feet or less?

A. Based on seismic, that's right.

Q. And generally, what conclusions can you draw from this geophysical information?

A. That we can see up to 50 feet or more of porosity within the Strawn reservoir.

Q. Would you concur in Exhibit Number 8, which has been admitted, which shows the Strawn pod in which the proposed well will be located as ending at the lease line between -- the section line between Section 2 and 11?

A. We do not feel like the porosity ends at the lease line. We feel like that it continues to the south through the Runnels 3 and to the southwest through the Lusk and the Schenck well.

Q. Were Exhibits 1 and 2 prepared by you?

A. They were.

MR. CARR: At this time we move the admission into evidence of David Petroleum Corporation Exhibits 1 and 2.

EXAMINER CATANACH: Any objection?

MR. BRUCE: No, sir.

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

MR. CARR: And that concludes my direct of Mr. McKamey.

CROSS-EXAMINATION

BY MR. BRUCE:

Q. Now let me get this straight, Mr. McKamey. You're saying the Townsend Number 5 and the Runnels Number 3, just to the southeast, are in communication?

A. It appears to be on seismic, yes.

Q. Okay. Have you ever looked at the pressure data on those two wells?

A. I understand there is a pressure difference. I have not --

Q. What would that indicate to you?

A. Pardon me?

Q. What would that indicate to you?

A. That is something that is better addressed from the engineer. I don't address pressure data that much.

Q. Okay.

A. I look at the geology.

Q. And you've heard Mr. -- You were here for Mr. Pearson's testimony, weren't you?

A. Uh-huh, earlier, yes.

Q. And he testified that there is no communication

between these two wells; is that correct?

A. I believe he said that there is a likelihood that there may not be a communication, based on the pressure data.

Q. Okay.

A. But that is not the only method of determining communication.

Q. Now, what's the producing rate of the Runnels Number 3?

A. I don't have that data in front of me.

Q. There was a hearing a few months ago when I believe Mr. Pearson testified it was producing somewhere around 700 barrels of oil per day. Do you have anything to dispute that?

A. I don't have that data. I wasn't here two months ago.

Q. But you testified that your companies have a 50-percent interest in the well, but they don't know what this well is producing?

A. I don't have the daily production, no, sir.

Q. But is it your testimony that if -- Assume the Runnels is producing about 700 barrels a day.

A. Okay.

Q. And right now, assume that the Townsend Number 5 is producing about 300 barrels a day. Is it your testimony

that Yates and David Petroleum are being harmed because they're producing twice as much oil per day as the Townsend Number 5?

A. Repeat your question, please.

Q. Assume the Runnels Number 3 is producing 700 barrels per day and the Townsend Number 5 is producing 300 barrels per day. Is Yates being harmed, is David Petroleum and McMillan and Permian, are they being harmed, by producing at twice the rates of the Townsend Number 5?

A. Are we being harmed because our own well?

Q. Because it's able to produce 700 barrels a day? Because the Townsend Number 5 can produce at less than half the rate of the --

A. I don't think we would do it if we though we would harm ourself.

Q. No, but is the Townsend Number 5 adversely affecting the Runnels Number 3?

A. That's not your question, your question was --

Q. No, that's my question.

A. Is the Townsend 5 being harmed by the Runnels 3?

Q. No, is the Runnels Number 3 being harmed by the Townsend Number 5 producing at half the rate?

A. Yes, I think it is.

Q. How?

A. Because I think it's in direct communication,

it's pulling reserves from our acreage.

Q. If you're producing at twice the rates, you're not pulling reserves off of Ocean's acreage?

A. Oh, sure, we're pulling reserves.

Q. Off of Ocean's acreage?

A. Well, yes, you're right, they would be connected, so we are jointly producing reserves off of both Ocean and Yates, that's right.

Q. Don't you have a benefit from producing at twice the rate of Ocean?

A. Well, we have the benefit of increased production, yes.

Q. Looking at your Exhibit 2, Mr. McKamey, is that the top of the Strawn, the green line?

A. Correct.

Q. Top of the Atoka is the purple line?

A. Right.

Q. That interval with the -- the peak, how does that predict porosity?

A. The interval with the peak?

Q. How does this show that they're in communication? I'm pointing particularly at that area. How does that show that the two wells are in communication?

A. The broadening of the peak.

Q. Does the shape waveform make any difference?

A. I'm sorry.

Q. Does the shape of the waveform make any difference in predicting the porosity?

A. It's more the broadening of the peak.

MR. BRUCE: Not worth it, Mr. Examiner, that's all I have.

MR. CARR: Well, that may not have been worth it, but I have a couple of questions on redirect.

EXAMINER CATANACH: Go ahead.

REDIRECT EXAMINATION

BY MR. CARR:

Q. Mr. McKamey, what is the bottomhole location of the Townsend Number 5? Do you know?

A. It's within 1020 feet of the Townsend 5 well. I don't know the exact -- I didn't bring the survey of results with me, so I don't know --

Q. Do you know where the bottomhole location of the Runnels Number 3 would be?

A. That's the same one. It's within 1020 feet of the Townsend 5, but I don't have the surveys for either well.

Q. Look at Exhibit 8. In regard to the lease line, if you look at the location of the Townsend Number 5 --

A. Uh-huh.

Q. -- and if you go to the bottom location for the

Number 3 --

A. Uh-huh.

Q. -- if you assume equivalent withdrawal rates from those wells, where would the drainage boundary be?

A. We drilled across two lease lines, so we've got a 160-acre drainage pattern.

Q. But where would the drainage boundary between those two wells be? Would it be on the Ocean property or on the Yates property?

A. On the Yates property.

Q. Is the purpose of your testimony to show that the reservoir as mapped by Ocean is mapped too small?

A. Correct.

MR. CARR: That's all I have.

RECROSS-EXAMINATION

BY MR. BRUCE:

Q. Do you have a map of what the reservoirs look like, Mr. McKamey?

A. Not with us, no.

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

EXAMINATION

BY EXAMINER CATANACH:

Q. Have you mapped it?

A. Yes, sir.

Q. And you show the Townsend 5 to be the same -- or

in connection, connected to the Runnels 5?

A. As well as the Schenck and the Lusk.

Q. Mr. McKamey, is there a reason why you've chosen not to submit that map here today?

A. For the purpose of this hearing, we wanted to show that there is at least some connectivity, not to define how much reserves we have on our acreage through a map.

EXAMINER CATANACH: I've got nothing further.

MR. CARR: That concludes our questions of Mr. McKamey.

Mr. Catanach, Mr. Pearson could respond to your question about why the map was not produced, as the representative of the operator of the well, if you desire.

EXAMINER CATANACH: Yeah, I'd like that. You can stay there if you want to.

MR. PEARSON: Simply put, we're actively drilling in the area. We both compete and in some cases have to cooperate with Ocean, and we are definitely in a competitive situation on our -- We feel like on the northeast boundary, we have a less contentious but competitive situation on our eastern lease boundary of Section 11 with Chesapeake, and our interpretation, put in public domain, we think, would be of some advantage to them.

EXAMINER CATANACH: Thank you.

Mr. Carr?

MR. CARR: Closing, it's brief.

EXAMINER CATANACH: Okay.

MR. CARR: Mr. Catanach, obviously operators do have rights to drill wells, to develop their property. But what you have before you today isn't an isolated case concerning one nonstandard spacing or proration unit. As Paul Harvey would say, there's sort of the rest of the story.

And as we watch this story unfold, what we know is, when we're talking with Ocean things change, they change every day. In May they were here testifying that no additional well would be needed. And while they didn't have time to give proposed orders and data to you, they turned right around and had time to file multiple applications to try and run through a nonstandard unit for an additional well. And while operators have rights to develop their property, we don't think all operators should stand before you in the same light, when one operator intentionally overproduced his well and has still not made that up.

The data that's been presented by both of the parties is different, but we believe you're the proper person to evaluate it, to determine which recovery factor

is appropriate for a solution gas drive reservoir, to look at the values and see who did the better job in doing volumetric calculations. And then you have to decide, will this pod as mapped by Ocean hold the reserves, or is the pod larger?

I mean, you look at the well control to the north, I think if you conclude that the pod must be larger, it extends to the south, and it extends onto acreage operated by Yates and by -- in which David Petroleum owns a substantial interest.

And so while they are overproduced, we submit they should not be able to increase the withdrawal from a pod from which we all produce.

The one thing that hasn't changed in the case is, their well remains overproduced. We think you should deny this as an application for an unnecessary well and an attempt to circumvent your rules. But at least until they make up their overproduction, certainly they should not be authorized to increase the withdrawal rates from the pod from which we all compete and all produce.

EXAMINER CATANACH: Thank you, Mr. Carr.

Mr. Bruce?

MR. BRUCE: Mr. Examiner, there's four or five reasons why Ocean's Application should be granted. First off, we submitted as Exhibit 3 a portion of Order Number

R-10,803, which specifically provided in it that Ocean could go ahead and drill a nonstandard proration unit. Yates was a party to that case, they never appealed, they did not object.

This is just a continuation of that order, and Ocean should be allowed to drill the well.

Second reason, as I've also submitted, Administrative Order NSP-1824, which initially granted this Application. We also submitted the notice letters. I wrote a notice letter to Yates, received Exhibit Number 4, which gave notice of the administrative application.

Exhibit 5 was the notice of hearing. The reason why I filed for hearing in addition to an administrative application was because Ocean would like to get this well drilled. I stated in bold at the bottom, "Please note that an administrative application has also been filed on this matter, and if that application is granted this case will be dismissed." Yates never objected to that administrative application. We request that NSP-1824 be reinstated.

Next, the 500 series of the Division statewide rules and Order R-9722-C, creating the South Big Dog-Strawn Pool, provides for proration on a well-by-well basis, not on a poolwide basis. Therefore, overproduction in one well does not and should not prevent Ocean from drilling another well in the pool. If Yates thinks that oil prorationing

should be operatorwide on a poolwide basis, then it should file an application with the Division asking for that. It has not done so.

When Yates was -- I'm not even sure of the exact figure, well over a million barrels overproduced in the North Dagger Draw Pool, it wasn't prevented from drilling wells, it wasn't prevented from producing the wells that were not overproduced. The overproduction, the makeup of the overproduction, was limited to the offending wells.

Next, yes, there is overproduction. In March, there was approximately 54,000 barrels of oil. I wish that hadn't happened, but it did. I think my clients wish it hadn't happened either. But now Ocean is less than 20,000 barrels overproduced. By the time an order is granted, by the time you can get a rig, drill a well, there's not going to be any overproduction.

If that's the case, then what's the basis for objection to Ocean's Application?

Up till now, the four or five reasons I gave you have nothing to do with virtually anything we've testified about here today on a technical basis. But Ocean -- I should say Yates, has made a big deal about the reserves into the well unit, so I'll go into that a little bit.

Yates claims that Ocean has insufficient reserves to drill another well. A couple of points related to that.

As I said, well allowables are based on statewide depth bracket allowables, not on calculated reserves in any particular pool. If Yates thinks it's being harmed, it has recourse to go drill another well or two. Yates and David Petroleum and the rest own or control the entire north half of Section 11. They can drill a well on the northwest quarter of the northeast quarter, or they could drill a well in the northeast quarter of the northwest quarter. They have not chosen to do so.

Why? I think all you have to do is look at Exhibit 10, Mr. Silver's exhibit. Clearly, when you look at that, where you don't see the bumps, the wells in the Strawn are dry. There's nothing between the Townsend Number 5 and the Runnels Number 3 or the Townsend Number 5 and the Lusk Number 2 and the Townsend Number 5 and the Schenck Number 1. There's a reason Yates hasn't drilled: Because there's nothing there.

Let's look a little bit at the pressure data. Although we don't have it all, some of the data submitted at the last hearing and today, Yates is claiming a drawdown in the Shell Lusk Number 2 well. When that well was completed in July of 1999, its pressure was about 3800 p.s.i. Three months, four months earlier, the Townsend Number 5 was 3000 p.s.i.: 800 p.s.i. -- probably at that point 1000 p.s.i. difference between the two wells.

Clearly with the permeability in these reservoirs there is no connection.

Mr. Pearson just got up and testified that when the Schenck was completed, which according to our records was March 30 of this year, the pressure was still 3800 p.s.i. Right now, or I should say in March, as testified to by Mr. Saunders in the last hearing, the Townsend Number 5 pressure is 1300 p.s.i. Clearly, there's a pressure differential.

Basically, there's no impairment of correlative rights, because the Townsend Number 5 and the proposed Townsend Number 11 are in a separate reservoir.

If the Division denies this Application, then I believe the only option is for Ocean to form -- if it can't drill, if it can't develop that acreage as provided in Order Number R-10,803, frankly, then, we think 120 acres should be dedicated to the Townsend Number 5. If that's the case, then we think we ought to get a 670-barrel-a-day allowable, because that's about what it would be.

The improperness of Yates' argument is this: Assuming Ocean was overproduced in the Townsend Number 5, but it had an entire 80 acres to dedicate to that well, the north half of the southeast quarter, the proposed well, Yates could have gone, gotten an APD, drilled that well, and there would have been nothing in the regulations to

prevent it. The only reason we're here is because it's a nonstandard unit, previously provided for.

We think the arguments of Yates are incorrect because the volume is there in that reservoir to support the drilling of that well, Ocean is willing to take the risk, and this Application should be approved.

Thank you.

EXAMINER CATANACH: Thank you, Mr. Bruce.

Anything further?

MR. CARR: Nothing further.

EXAMINER CATANACH: There being nothing further in this case, Case 12,450 will be taken under advisement.

(Thereupon, these proceedings were concluded at 2:04 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 12450, heard by me on July 27 1900.

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 August 3rd, 2000.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002