STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	)	
APPLICATION OF SAPIENT ENERGY CORP. FOR AN UNORTHODOX WELL LOCATION AND (i) TWO NONSTANDARD 160-ACRE SPACING UNITS, OR IN THE ALTERNATIVE (ii) ONE NONSTANDARD 160-ACRE SPACING AND PRORATION UNIT, LEA COUNTY, NEW MEXICO	)	CASE NO. 12,587
APPLICATION OF SAPIENT ENERGY CORP. FOR SPECIAL POOL RULES, LEA COUNTY, NEW MEXICO	)	CASE NO. 12,605
	)	(Consolidated)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

March 1st, 2001

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, March 1st, 2001, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, 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

March 1st, 2001
Examiner Hearing
CASE NOS. 12,587 and 12,605 (Consolidated)

(Continued...)

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A P P E A R A N C E S

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By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 9:00 a.m.:

EXAMINER STOGNER: This hearing will come to order for Docket Number 7-01. This is a Special Examiner Hearing today, Thursday, March 1st. I'm Michael Stogner, appointed the Hearing Officer for today's cases.

At this time I will call Cases -- and I assume they will be consolidated; is that correct?

MR. KELLAHIN: Yes, Mr. Examiner.

EXAMINER STOGNER: Case Number 12,587, which is the amended Application, or the Application, of Sapient Energy Corporation for an unorthodox well location and (i) for two nonstandard 160-acre spacing units, or in the alternative (ii) one nonstandard 160-acre spacing and proration unit in Lea County.

In Case Number 12,605, an Application of Sapient Energy Corporation for special pool rules, Lea County, New Mexico.

At this time I will call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of Sapient Energy Corporation.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe office of the law firm Holland and Hart, L.L.P. We represent Chevron USA

Production Company and Conoco, Inc.

EXAMINER STOGNER: Let me get this straight, Mr. Carr. You're representing Chevron and Conoco?

MR. CARR: Yes, sir.

EXAMINER STOGNER: And you're representing Sapient.

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: Are there any other appearances besides these three companies?

MR. KELLAHIN: We would ask that you call Case 12,605 and consolidate the two matters for presentation to you this morning, Mr. Stogner.

EXAMINER STOGNER: Okay, let the record show that that case, 12,605 has been called, and that Cases 12,587 and 12,605 will be consolidated for purposes of hearing and issuance of an order in this case.

Before we get started, a couple of matters.

Mr. Harry Nutter, do you want to come up here and take a seat?

Mr. Harry Nutter is our new legal counsel for the Division. He lived in Santa Fe for a while and was down in Midland, and now he's rejoined us, or I should say joined *us*. When he was here in Santa Fe, he was working for another company, or another law firm, I should say.

So Harry, welcome.

MR. NUTTER: Thank you.

EXAMINER STOGNER: Also, just for the record, in this particular case I believe the Hobbs OCD overlooked a nonstandard proration unit in an unprorated pool that has produced for some time, and Chevron had applied for an unorthodox location administratively, which led to the discovery of this from this Office, and had come up with an alternate solution, or a solution, in which I understand there is some objection to.

So we're here to agree or disagree over an alternate solution or hear some alternate terms. Is that it, in a nutshell, gentlemen?

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: I believe that's correct, Mr. Stogner.

EXAMINER STOGNER: And for the record, what is the administrative order that was issued to Chevron in this pool for an unorthodox location? You're probably going to present that later, but I just kind of want this on the docket to kind of set the --

MR. KELLAHIN: I'm going to present that to you, Mr. Stogner. We have that in our presentation.

EXAMINER STOGNER: Just as reference at this point.

MR. CARR: It's Administrative Order NSL-3752-A.

EXAMINER STOGNER: 3752-A.

MR. CARR: Yes, sir.

EXAMINER STOGNER: And it was dated when?

MR. CARR: January 24th, 2000.

EXAMINER STOGNER: Okay. With that, is there any other need for an opening statement, Mr. Carr or Mr. Kellahin?

MR. KELLAHIN: Mr. Stogner, I'd like to summarize for us, for you and for the participants, Sapient's position in this matter, and to do so, let me distribute some of our exhibits to you so that you at least have the plat that orients you.

Mr. Examiner, if you'll refer to what is marked as Sapient Exhibit Number 1, it's color-coded. The color code in Section 7, in yellow, represents the Sapient acreage. The color code in the display in Section 7 represents in the light green the acreage that's shared with Conoco and Chevron. Our understanding is that Chevron has a 50-percent interest in the west half of the east half and that Conoco has a 12-1/2-percent interest.

Our information is, in the southeast quarter of 6 Chevron has 100-percent interest, in the southeast quarter. The well in question is the Barbara [*sic*] 12 well. Do you see that? It's up in Unit Letter A of Section 7.

The Chevron well that you referred to a while ago

is the Matthews 12 well. And while it's not identified specifically on the display, you can see that it is the northwest diagonal offset to the Barbara 12 well. It has a gas well symbol on it, and it is an existing oil well that's 330 from the south line of Section 6, and it is the well that you have approved administratively for Chevron to re-enter and deepen to the Tubb gas formation. The Barbara 12 well is 330 feet from the north line of Section 7.

The east half of 7, while divided vertically int the east half, east half, and into the west half, east half, are two fee tracts. We're dealing with fee acreage, so that the west half of the east half is one base fee ownership group. And the east half of the east half is one base fee ownership group, concerning the Tubb formation.

You can see from the legend that we're in Lea County, New Mexico. This is the Monument area. As you know, it's one of the old producing areas in New Mexico. It's an area in which Conoco and Chevron have operated for decades.

And back in September of 1999, Cross Timbers asked the Division District Office in Hobbs for permission to re-enter the Barbara 12 well and to deepen it to the Tubb. They obtained a District approval of their sundry notice to do that. And in doing so they filed a proposed acreage dedication that declared 160 acres, constituting

the east half of the east half of 7, to be dedicated to the well in the event it produced gas from the Tubb.

They engage in that action and, amazingly, they discover what turns out to be a new Tubb gas pool. They got permission to do that and disclose in the paperwork to the Division District Office that the re-entry of the old oil well was going to be at a location 330 from the north line. And they disclosed the acreage, being the east half of the east half of 7.

The District Office approved that, and when Cross Timbers went back in, in September of 1999, to ask for permission to produce the gas well, the District Office granted that approval. The gas well was produced.

In addition, the District Office in Hobbs approved the creation of a new gas pool, and they called it the West Monument-Tubb Gas Pool. This is the only well in that gas pool.

In addition, the District Office asked the Division here in Santa Fe to enter an order approving the creation of this pool, and the initial acreage dedicated to the pool is the east half of Section 7.

But here's the problem. The problem was created by Cross Timbers and by the Oil Conservation Division in Hobbs, and it was overlooked for more than a year. Conoco, as an operator in the area, working interest owner, didn't

catch the problem, Chevron didn't catch the problem, OCD Hobbs didn't catch the problem. And Cross Timbers is not here today to resolve the problem.

After they complete the well, Cross Timbers assigned this well and a number of other properties to Falcon Creek. This is in April, 2000. The well commenced producing in September of 1999.

In July of 2000, Falcon Creek was merged with Sapient, and Sapient assumed operation of the well. And in doing so, Sapient had no knowledge that there was a failure on Cross Timbers' part to obtain an exception from Rule 104 for the location of the Tubb gas, that Cross Timbers failed to get Division approval for an exception from Rule 104 for the nonstandard proration.

Now, who's Sapient? Sapient is a company in Oklahoma. This acquisition and merger with Falcon represents the first occasion in which Sapient is an operator in New Mexico.

They had no idea that the well they acquired in this merger acquisition, along with other New Mexico properties, and a well that they acquired for big bucks from Cross Timbers and then through Falcon Creek, had not complied with Division Rule 104.

They had no idea that this existed until October of year 2000, more than a year, more than a year, after

this well commenced producing. They had no idea that this problem existed until Chevron filed an application for an unorthodox well location for their Matthews Number 12 well that's shown on the plat.

Chevron declares that they want to compete in the Tubb Gas Pool with the old Cross Timbers well.

Up to this point, Chevron did not complain about the Cross Timbers location, did not complain about the unorthodox location or the nonstandard proration unit. Chevron is the offset operator in both directions, and they don't complain. All they seek to do is to have a well north of what now is the Sapient well.

In processing the information from Chevron as to their location, Sapient contacted me. And Sapient, then, came forward and filed an Application to resolve the problem of the fact that Cross Timbers didn't get all of the necessary approvals.

And we're asking you to come forward, hear this case and to issue those additional approvals for this well.

To the best of my knowledge and experience, this kind of issue seldom arises. This is the kind of clerical thing that is routinely, routinely, captured, disclosed and dealt with at the District level. It is incredibly unusual, even with unsophisticated operators, for the District Office not to catch the fact, before they issue

the producing allowable, that the well is at an unorthodox location and that it has an acreage dedication different from the standard rule.

It is invariably caught at that point, unfortunately, to everyone's deep regret, particularly Sapient, who has purchased a well they thought was properly permitted, that they spent hundreds of thousands of dollars for, and have disbursed hundreds of thousands of dollars on, that now this is a problem.

We're asking you to resolve it. We think the only way to resolve it is to give you all the possible options for that resolution. We are not experts in this area, Sapient's not coming forward to tell you how to fix this. They don't know, they're new in New Mexico.

We're going to give you the information that we have, we're going to give you the technical data we have, and we're going to defer to you and your expertise to tell us how we solve a unique, unusual problem.

And in doing so, based upon the prehearing conference we had back in January, I have filed an Amended Application that gives you various options for resolution.

The one we prefer is to simply continue with the status quo of what was created by Cross Timbers, and that would be the approval of a 160-acre nonstandard proration unit for the Sapient well in the east half of the east

half, and to avoid a proliferation of nonstandard proration units, then to have you declare available for the interest owners in the west half of the east half a similar nonstandard proration unit, and the problem stops there.

We ask that you approve this location. You've already approved one for Chevron, and so the competition will continue in the pool with those wells, and that Chevron and Conoco will have an opportunity to drill the third well if they choose to do so. Then the problem stops there.

In addition, should you decide that there's sufficient data, we have provided you the opportunity to create special rules for the pool, including a provision for 80-acre spacing. We believe there's sufficient data to justify doing that, and will show it to you.

If you choose to accept our position, then you have an alternative solution, which will be declare 80-acre spacing in this pool, and therein lies a solution. That solution would be that Sapient would declare the east half of the northeast quarter as the 80-acre spacing unit for that well. It leaves available, then, the west half of the northeast for Conoco and Chevron to drill their well. And that leaves available for Chevron in the southeast quarter of Section 6 the opportunity to declare out of the southeast quarter an 80-acre spacing unit for the well

they're re-entering, which is the Matthews Number 12.

In addition, while this advertisement does not indicate that, we have discussed, and you're certainly welcome to determine whether it's suitable to prorate this pool. I will tell you, my witnesses have no experience in prorationing. They will not be able to respond to your technical questions, and we'll simply defer to you to decide if you think that is the fix.

We're suggesting that the solution that we advance is to make additional approvals for the Sapient well retroactive to the date of first production, which is September 9th, 1999. And in doing so, you continue to maintain the equities that have already been disbursed. To do otherwise disrupts the equities involved and will be a serious detriment to Sapient.

So we're here today to show you what the problem is and ask for your guidance and solution on how to resolve this.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

Mr. Carr?

MR. CARR: May it please the Examiner, as Mr. Kellahin has pointed out, Sapient is the operator of the Bertha J. Barber Well Number 12. It is a gas well in a gas pool. And the problem we're here to deal with is the fact that it is at an unorthodox well location, and dedicated to

it is a nonstandard proration unit.

Initially, I would like to make it clear that neither Chevron nor Conoco are here today to oppose your approval of an unorthodox well location. That will not be an issue that we will raise in this case.

The problem that we have is that neither the unorthodox well location, when the well was drilled to the Tubb, nor the nonstandard proration unit were properly approved. And we do not submit that it is the role of the Oil Conservation Division to look for errors, to check everything. We don't believe that the OCD is wrong.

We believe incorrect procedures were followed by Cross Timbers. They did not file a proper application, they did not give the notice that was required, and the result is a well at an unorthodox location in a nonstandard unit, neither of which have been approved.

The problem is that this well -- and the evidence will show -- that this well isn't just draining the acreage dedicated to it, and therein lies the problem. In fact, it could not drain the acreage dedicated to it.

The evidence will show that when Sapient discovered this problem, and today, they could dedicate a standard unit to the well, they could dedicate the northeast quarter of Section 7, and we could all go home. They could today, at least form a spacing or proration unit

under the rules.

But to do that, they would have to share production proceeds with other interest owners in the west half of the northeast quarter, and that is a problem for them.

And it is also a problem for Conoco and Chevron, because what we're dealing with is a situation with a well dedicated on a standup east-half, east half unit, that is in effect draining or will drain reserves from the west half of the northeast quarter. What we have is a well that would drain a standard spacing unit. And the fact of the matter is, as it stands, this situation has an impact on the rights of those other interest owners in the pool.

Sapient comes before you, and they propose various solutions.

They ask you not to disrupt the equities. But we submit to you that the evidence will show that the equities are not equitable and that, in fact, interest owners are having production drained by a well that is on a nonapproved spacing unit, reserves that would be drained by the well and could be drained by the well on a standard unit.

They come forward with a number of proposals, and we submit when we look at the evidence, you will find that each of their plans will result in overdrilling of this

reservoir, waste and impairment of the rights of all interest owners in the pool, and that when you get to the conclusion of this case, we believe you will find that the nonstandard units proposed should be denied.

EXAMINER STOGNER: Thank you.

Let's see, I believe, Mr. Kellahin -- How many witnesses are you going to present today?

MR. KELLAHIN: I have three witnesses, Mr. Examiner.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: I have three -- I have five witnesses.

EXAMINER STOGNER: Five witnesses. I'm going to ask all witnesses to please stand at this time and be sworn.

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Stogner, we'll call our first witness, Mr. Chuck Perrin. Mr. Perrin spells his last name P-e-r-r-i-n.

CHARLES H. PERRIN,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Perrin, for the record, sir, would you please

state your name and occupation?

A. Charles H. Perrin. I'm vice president of land and business development for Sapient Energy Corp.

Q. And where do you reside, sir?

A. Tulsa, Oklahoma.

Q. How long have you been employed by Sapient in this capacity?

A. Since July of 1998.

Q. Do you have any technical degrees, Mr. Perrin?

A. I have a bachelor of business administration with a major in petroleum land management from the University of Oklahoma.

Q. In October of last year, whose responsibility at Sapient was it to respond to Chevron's request for an unorthodox well location that they had delivered and sent to Cross Timbers? Who ultimately at Sapient had the responsibility to address that request?

A. It's my responsibility to review regulatory applications and to disperse them within the company.

Q. When did Sapient first acquire any interest in producing wells in the State of New Mexico?

A. It was on July 14th, 2000.

Q. Prior to that time, did you have any experience in New Mexico with the regulation of wells and production?

A. No.

Q. As of October of last year, did you have any experience in dealing with regulatory matters here in New Mexico?

A. No.

Q. Let me ask you to turn to Exhibit 1 and identify that display for us.

A. Exhibit 1 is a chronology of --

Q. I'm sorry, I've got you on the wrong exhibit. Exhibit 1 is the plat.

A. Exhibit 1 is simply an acreage locator plat to show everyone here where our lease is located in regard to Chevron's and Conoco's.

Q. Concerning the ownership of interests that are outlined in the color code, have you asked others to provide you with information as to the ownership?

A. Yes.

Q. And you are now informed as to that ownership?

A. Yes, I am.

Q. In addition, as a result of Chevron's Application, how did you acquire the information concerning the Cross Timbers Barbara [*sic*] Number 12 well? Was that in your office in Tulsa at that time?

A. No.

Q. Where was it?

A. That was in our Denver office. We took over

Falcon Creek on July 14th through merger agreement, acquired all of their stock, and all of that information, with regard to all of the New Mexico properties we acquired, was still in the Denver office at that time.

Q. Subsequently, you have reviewed all those documents, and I have provided you with the Division documents out of the Santa Fe office, have I not?

A. Yes, you have.

Q. And you've reviewed them?

A. Yes, I have.

Q. You have prepared what is marked as Exhibit 2, and it's a historical summary of what you consider to be information of interest to the Examiner concerning this question?

A. Yes.

Q. Let's start back in October 17th, then, and follow through Exhibit Number 2, so the Examiner sees what you now know.

On October 17th of last fall, what happened?

A. Our Denver office received on or about October 17 a letter from Chevron requesting the unorthodox location for the Matthews well.

Q. That was forwarded to you, and it became your responsibility to attend to it; is that not true?

A. That's true.

Q. What did you do?

A. We contacted you and asked for your guidance in the best way that we should proceed in this matter. We didn't have much time left to respond when we finally received the letter.

Q. Sapient, in fact, filed, then, an objection to the Chevron well at that time?

A. That's correct.

Q. Sapient subsequently withdrew the objection, and the permit was issued for the Chevron well; is that not true?

A. That's true.

Q. All right. Let's go back now to April of last year when you acquired -- I'm sorry, in April of last year when Falcon Creek acquired interest in wells from Cross Timbers. What happened, when you look at the records?

A. Well, when you look at the records, it was a fairly significant acquisition covering hundreds of wells, and the Falcon Creek due diligence team performed a routine due diligence and examined all of the land and legal records of the properties that were being acquired, and there were no objections or exceptions regarding this particular well. There was no evidence in the file that there was anything wrong with the regulatory permits that gave Cross Timbers the right to operate the well.

Q. Does a review of the documents disclose any representation by Cross Timbers concerning regulatory compliance of their wells that they're now conveying or selling to Falcon Creek?

A. No.

Q. Initially, were there representations about compliance that have now expired?

A. Yes.

Q. Describe for us what was found concerning the representations.

A. There was a purchase-and-sale agreement executed between Cross Timbers, the seller, and Falcon Creek, the buyer, which contained certain normal representations and warranties with regard to the properties, specifically one of the representations that all of the properties were in full compliance as to each state the properties were in with all regulatory orders, permits and other requisite paperwork that would be necessary to prudently, properly and legally operate and produce hydrocarbons from each well.

Q. Does your review of those documents indicate that Cross Timbers disclosed in any way that there were issues about inadequate compliance with regulatory rules concerning the Barbara Well Number 12?

A. No, absolutely not.

Q. Is there any indication in the Falcon Creek files that they were aware that the Barbara 12 well had some inadequacies in the approvals for that well?

A. None whatsoever.

Q. When did Sapient acquire Falcon Creek?

A. The merger was effective on July 14th of 2000.

Q. As a result of that merger, how many wells did Sapient acquire?

A. We acquired 340 wells in that particular merger.

Q. When we look at what was represented to you concerning the working interest and the net revenue interest for the Barbara 12 well, what were you led to believe that you had purchased?

A. Well, we were certain at the time that we had purchased 100-percent working interest with an 87-1/2-percent net revenue, and this was one of the more valuable wells in the entire purchase, and we incurred substantial debt to buy these properties, and so we felt that we were buying 100 percent of that well.

Q. After Chevron filed its application for the unorthodox location, requesting permission to re-enter the Matthews 12 well in the southeast quarter of Section 6, what then did you do?

A. Since we were in a time of transition in moving all of the geological and engineering well files, land and

legal files, from the Denver office, which we were closing, to the Tulsa office, our first reaction was to ask you for guidance as to how we should approach this. And we frankly didn't have enough data to study the problem at that time.

Q. As a result of Chevron's action, did you initiate a review of the Falcon Creek-Cross Timbers files concerning this well?

A. Yes, we did.

Q. In addition, did you review the documents I provided you from the Division office concerning the Barbara Number 12 well?

A. Yes.

Q. And have you summarized for us on Exhibit Number 2 what those documents reflect?

A. Yes, I have.

Q. Let's set aside Exhibit 2, and let's look at the documents. If you'll start with Exhibit 3, which is stapled together, and the stapled documents represent Exhibits 3 through 9, let's start with Exhibit Number 3. What is Exhibit 3?

A. That's a State of New Mexico Form C-103 dated August 10th, wherein Cross Timbers provides notice it intended to recomplete the well in the Tubb, and it was approved by the State on September 20th, 1999.

Q. Where do we find those approvals? If you'll look

at the bottom of the form, on Exhibit Number 3, there's a stamp that says, "Original signed by Paul Kautz"? Do you see that?

A. Yes.

Q. Do you now know that Mr. Kautz is the District Geologist for the Artesia -- I'm sorry, for the Hobbs office of the Oil Conservation Division?

A. Yes, I do.

Q. You've never met with him and you've never talked with him, have you?

A. No, I have not.

Q. Let's turn to Exhibit 4. In reviewing the files, Exhibit 4 represents what, Mr. Perrin?

A. That's a State Form C-105, dated September 9th, 1999, which gives notice that the well had been recompleted as a Tubb gas well.

Q. All right, it discloses on the bottom of the form that it, in fact, is a flowing gas well with first production shown on August 21st of 1999?

A. That's correct.

Q. Following that form, there is an Exhibit 5. What is that?

A. That's another Form C-103, dated again September 9th, 1999, providing notice that the well had indeed been recompleted in the Tubb as a gas well, and it was approved

by the State on September 20th of 1999.

Q. All right. Now let's turn past Exhibit 5 and look at Exhibit 6. What is this?

A. That's a Form C-102 that Cross Timbers filed, dated September 9th of 1999, which reflects an unorthodox Tubb gas well location 330 feet from the north line and 660 from the east line of Section 7, and it outlines a dedication of the 160-acre standup unit described as the east half, east half of the section, and I believe the original plat actually drew in the standup 160.

Q. And you now know that that is an unorthodox well location for shallow gas, Tubb gas, and you now know it's a nonstandard configuration for a spacing unit?

A. Yes, we now know that.

Q. Let's look at Exhibit 7. What is this document?

A. It's a Form C-104 that Cross Timbers filed, which was a -- requests an allowable for a wildcat Tubb gas well, which was granted on September 20th of 1999.

Q. All right, identify for us what is marked as Exhibit 8. What is this?

A. Exhibit 8 is the Form C-104 that Falcon Creek filed --

Q. I'm sorry, I've confused you. Exhibit 8 I show to be a C-116, the gas-oil-ratio test. Do you have that?

A. Oh, yes, I do. That's, exactly as you say, a

gas-oil-ratio test.

EXAMINER STOGNER: At this time, Mr. Kellahin, let's make sure I've got everything.

MR. KELLAHIN: Okay.

EXAMINER STOGNER: What is Exhibit 3 again?

MR. KELLAHIN: All right, Exhibit 3 is the C-103 filed by Cross Timbers, dated by them on August 10th of 1999.

EXAMINER STOGNER: Okay, and Exhibit 4?

MR. KELLAHIN: Exhibit 4 is Cross Timbers' C-105, dated September 9th of 1999.

EXAMINER STOGNER: This is only one page.

MR. KELLAHIN: It's just the first part of that.

EXAMINER STOGNER: It's the first part.

MR. KELLAHIN: Yes, sir. And you're certainly welcome to refer to the entire well file, but this is the first page.

EXAMINER STOGNER: Okay. Now, what's Exhibit 5?

MR. KELLAHIN: Exhibit is the C-103 submitted by Cross Timbers, dated September 9th, showing that they did, in fact, the work.

EXAMINER STOGNER: And Exhibit 6, the C-102?

MR. KELLAHIN: C-102 is Exhibit 6, and it's dated by Cross Timbers and filed with the Division.

EXAMINER STOGNER: Okay, and Exhibit 7?

MR. KELLAHIN: Exhibit 7 is Cross Timbers' request for an allowable for the well, which was approved by the Division on September 20th of 1999.

EXAMINER STOGNER: And that's a Form C-104?

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: And this is reduced copy, because this is a legal size document?

MR. KELLAHIN: That's right, it is, I reduced it.

EXAMINER STOGNER: All right, now we're on Exhibit 8.

MR. KELLAHIN: Exhibit 8 is the gas-oil-ratio test --

EXAMINER STOGNER: Okay.

MR. KELLAHIN: -- which shows it's a gas well.

EXAMINER STOGNER: Is this what you have, Mr. Carr?

MR. CARR: Yes, it is.

EXAMINER STOGNER: That's what I have, Mr. Kellahin.

Q. (By Mr. Kellahin) And then finally Exhibit 9, Mr. Perrin, would you identify what that document is?

A. Exhibit 9 is a Form C-104 that Falcon Creek filed, notifying the change of operator from Cross Timbers to Falcon Creek and requesting an allowable to produce gas from the Monument-Tubb West Gas Pool.

Q. And this document is dated March 31st of last year and approved on April 14th of last year by Chris Williams, District Supervisor for the Division?

A. That is correct.

Q. All right, sir. When we look at the east half of the east half of 7, have you reviewed the documents, Mr. Perrin, so that you can show the Examiner how many different royalty owners that Falcon Creek disbursed to, that Cross Timbers disbursed to, and that now you, Sapient, disbursed to?

A. Yes, I have.

Q. And how many are there?

A. There are 79 separate and distinct mineral owners in that tract.

Q. Let me ask you to turn to Exhibit 10. Can you identify this spreadsheet?

A. Exhibit 10 is a copy of Sapient's internal revenue distribution deck, which identifies the names and addresses of the 79 mineral owners in that tract that we send checks to every month.

Q. Have you gone back, Mr. Perrin, and attempted with the assistance of others to establish on a monthly basis the volume of gas produced from inception?

A. Yes.

Q. And have you reduced that to the form of an

exhibit?

A. Yes.

Q. Is Exhibit 11 that exhibit?

A. It is.

Q. Let's look at it. How have you arranged the spreadsheet? What information does it show?

A. Well, it shows the volumes of gas produced from inception of the recompletion in August of 1999, and I've divided it to show which company owned the well in which particular months. The first half of the life of the well was owned and operated by Cross Timbers, then only four months by Falcon Creek, and since August 1st Sapient has operated the well.

Q. Are the handwritten summaries at the bottom your handwriting?

A. Yes.

Q. Let's look at that. For the months operated by Cross Timbers, have you totaled the volume of gas --

A. Yes.

Q. -- have you totaled the volume of gas that was produced from the well under the operation of Cross Timbers?

A. Yes, I have.

Q. And what is that volume?

A. It's 187 million cubic feet of gas.

Q. Of the 187 million cubic feet of gas produced by Cross Timbers during their time of operation, have you yet determined what the value was of that production to Cross Timbers and how they distributed the royalties and the working interest?

A. Well, we don't have exact figures for any of that since those records were not necessary to be transferred to the buyer, Falcon Creek, of the properties. But we could generalize from the volumes and just assume a dollar figure. We expect Cross Timbers probably produced something in the neighborhood of $380,000 worth of cash flow from the well.

Q. Does Sapient now have any recourse against Cross Timbers for reimbursement of any of that money?

A. No.

Q. Let's look at the period of time that Falcon Creek operated the well, from April through July. What is the total volume of gas produced from the well during their operation?

A. They produced about 165 million cubic feet of gas.

Q. Have you examined records that determine the value and the distribution of that value?

A. I have.

Q. And what are those numbers?

A. They produced a gross cash flow of $447,879.

Q. And how was that distributed?

A. Well, they paid, as indicated, $50,986 to the 79 royalty owners, and the working interest owner, who is Falcon Creek wholly, earned $356,000.

Q. And finally, during Sapient's operation of the well, what is the volume produced under your operation?

A. Since Sapient acquired the well, we've produced 199 million cubic feet of gas.

Q. And how is that volume distributed in terms of value?

A. It's a value of about a gross value of $753,000.

Q. Okay. And when you add the Falcon Creek and the Sapient volumes, you've distributed to the various different royalty owners about $137,000 with the revenue?

A. That's correct.

Q. Have you been able to reconstruct out of this merger acquisition of the -- I believe it was, what, 340 wells. Have you come to any estimate of what price Sapient paid for this wellbore?

A. No, I don't have that specific number with me.

Q. Is there any way to assess the economic impact of this problem on Sapient concerning this well?

A. Yes.

Q. Describe for us what that is.

A. Well, this well was one of the top-valued wells in the entire acquisition. With 100-percent working interest, we ascribed quite a significant value to this well -- I'm sure it's in the millions of dollars -- and we incurred substantial debt to pay for the well. We purchased 100 percent of the future reserves of this well we've paid for already.

And so to have anything less tan 100 percent of the well now, and to give away half of our well, in essence, to a company that didn't drill the well or take the risk would be a significant economic hardship on us. We've still got debt to service, because we paid already for the future of the well.

Q. At this point, if the Examiner requires Sapient to form a standard spacing unit, make that retroactive back to the date of first production, back to September of 1999, the economic consequence of doing so will be borne entirely by Sapient; is that not true?

A. That's true.

Q. And you'll have no recourse against anyone else?

A. No.

MR. KELLAHIN: That concludes my examination of Mr. Perrin. We move the introduction of Exhibits 1 through 11.

MR. CARR: No objection.

EXAMINER STOGNER: Okay, Mr. Carr, do you have any objection to Mr. Perrin as a witness?

MR. CARR: No, I do not.

EXAMINER STOGNER: Okay, we neglected to do that. However, I do have some questions of Mr. Perrin, to make clear for the record.

By happenstance we have a Charles or a Charlie Perrin working for the OCD in a different district, that was in the Hobbs office at about this time. Now, obviously you're not that person today, but are you any kin to our Mr. Perrin here in New Mexico, living in Aztec, New Mexico at this time?

THE WITNESS: No.

EXAMINER STOGNER: So you have no knowledge of any kind of relationship to that gentleman?

THE WITNESS: None whatsoever.

EXAMINER STOGNER: Okay, then I accept Mr. Perrin's qualifications, and Exhibits 1 through 11 -- is that correct? --

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: -- will be admitted into evidence at this time.

Thank you, Mr. Perrin.

Mr. Carr, your witness.

MR. CARR: Thank you, Mr. Stogner.

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Perrin, Sapient acquired the property and the Barber Well Number 12 from Falcon Creek; is that correct?

A. That's correct.

Q. Was this a purchase of the assets of Falcon Creek?

A. We purchased 100 percent of the stock of the company.

Q. In that role, are you a successor to any warranty given to Falcon Creek?

A. Yes.

Q. You've testified that Cross Timbers had warranted compliance with the State rules and regulations; is that right?

A. Yes, that's right.

Q. And then you also testified that you had no recourse against Cross Timbers?

A. Yes.

Q. Was there a time limit on that warranty?

A. Yes, the representations did not survive closing.

Q. When you were purchasing the stock of Falcon Creek, was there a due diligence period during which time you were able to go out and confirm the assets of Falcon Creek whereas they were represented?

A. Yes, sir.

Q. And were you the person responsible for doing that due diligence?

A. I didn't physically do it, but I oversaw the due diligence.

Q. Were a number of the assets located within the State of New Mexico?

A. Yes.

Q. Did you retain anyone or employ anyone to confirm the status of the wells as they relate to state rules and regulations?

A. Not specifically, no.

Q. Do you have any recourse against -- I guess as a successor, just buying the stock, there is no recourse against Falcon Creek; that would be against yourself, wouldn't it?

A. Correct.

Q. In purchasing the assets, at some point did you not assign some value to this well?

A. Certainly, we did.

Q. And you don't have that number available, you don't know how you valued it when you acquired it?

A. No, I have access to that number, I just don't -- I didn't think to bring it with me.

Q. Now, when we talk about the value of the well to

Sapient, is it fair to say that when you acquired the well you were assuming that the reserves that would be drained would, in fact, be coming from acreage also owned by Sapient?

A. Yes, we assume that on all the wells we acquire.

Q. And you didn't -- Did you do a geological or engineering -- have that also done on the wells and the properties you were acquiring?

A. We didn't do a geological review.

Q. Okay, but it's fair to say when you acquired the stock you were unaware that you had an unapproved well location and an unapproved spacing unit?

A. Yes, sir.

Q. And it isn't surprising to you, since you were the purchaser, it wouldn't be surprising that Conoco and Chevron also weren't aware of that at that time?

A. I'm not surprised.

Q. When we look at your Exhibit Number 2, you talked about an objection you filed to a Chevron location 330 off the north line of your spacing unit. When you filed that, were you aware that that would result in Chevron having a well farther from the common line than your current Bertha Barber well?

A. Yes, that was one of the remedies that we discussed internally.

Q. And you were aware, then, that they would be farther from you than you were from them; is that fair to say?

A. Yes, but we really filed to buy time, because we didn't have information enough to study.

Q. And during that time you knew you had a well, a good well, producing 330 off their line, did you not?

A. I did.

Q. And you've continued to produce that well to this day, have you not?

A. We have.

Q. And there is no well offsetting you to offset the drainage from the Bertha Barber well; isn't that right?

A. No, although I understand one has been approved that they can drill.

Q. And it was approved after you withdrew your objection; isn't that right?

A. Yes.

Q. And it was only withdrawn after this matter was set for hearing; isn't that correct?

A. Yes.

Q. Now if we go to your Exhibit 3 -- and I guess we could look at 3 through probably 9 -- This is actually the well file, is it not?

A. Yes.

Q. And when you looked and reviewed the data on this well, did you also consider this well file? Is this information that you looked at when you were doing your due diligence?

A. Yes. Honestly, I don't know if all of these particular documents were in them, but -- Mr. Kellahin obtained the ones that were not in our files for us.

Q. When we go through these files, look at the last page, Exhibit 9. Right above the signature of the chief executive office of Falcon Creek it says, "I hereby certify that the rules of the Oil Conservation Division have been complied with..." Do you see that language?

A. Yes.

Q. When a form like this is filed with the Oil Conservation Division, isn't it fair, in your opinion, for the OCD to rely on the data file?

A. I really don't have enough experience in New Mexico to respond to that.

Q. Is it your testimony that we're in this mess because the OCD didn't catch this?

A. No, not necessarily.

Q. It's not your testimony that it's the OCD's fault, is it?

A. No, I'm not laying blame; I'm simply stating the facts as to how we arrived at this place.

Q. And you're not saying that it's Chevron or Conoco's fault either, are you?

A. No.

Q. If we look at your Exhibit Number 10, the list of all the interest owners in the property who share in production from the well on an east-half, east-half unit, you've requested that if we go to -- Have you requested if we go to 80-acre spacing, that we adjust the production retroactive to first production?

A. Yes.

Q. So if you go to 80-acre spacing, you could make the adjustment; is that right?

A. Yes.

Q. And if you were required to develop on 160-acre spacing, it would be possible also to make the adjustment and accurately account?

A. It depends on how you would describe that 160 acres.

Q. Is there a 160 acres where you couldn't reallocate the production?

A. There is certainly one where it would be a real accounting nightmare.

Q. And which would that be?

A. That would be the northeast quarter of 6.

Q. And why would that be more difficult than going

to simply 80-acre -- Is the ownership common throughout the east half, east half?

A. Yes.

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

EXAMINER STOGNER: Mr. Kellahin, any redirect?

MR. KELLAHIN: No, sir.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Perrin, your Exhibits 3 through 9 -- this is the well file data, Cross Timbers -- does this represent the full well file that Sapient has in their possession that they got from Cross Timbers?

A. No, we have other documents in there that really didn't relate to regulatory matters.

Q. Okay. Now, when Sapient took over Cross Timbers properties, Falcon Creek properties, is it your practice to do what kind of review on all the wells that now falls under Sapient's operations?

A. Well, typically when we do a due diligence -- and I've done due diligences on millions and millions of dollars' worth of properties -- we single out the higher-value wells and we do a title review to make sure that the title that we are acquiring is good.

And we never really inspect each specific

regulatory document that affects all of the hundreds of wellbores. We assume that if the wells are up and running and have been producing for years and years, that the licensed and bonded, knowledgeable operators who drilled and produced them at the time secured those orders, and relied on their expertise to have done so.

Q. Does your map on Exhibit Number 1 represent approximately what percentage of Sapient's operations in New Mexico? Is this a very small percentage, too small to even calculate?

A. It's a fairly small percentage, and just wildly guessing, I'd say maybe 15 percent of our operations is in New Mexico, but I...

Q. Okay. So this would represent about 15 percent, you're saying? Where are some of the other operations of Sapient? Have they taken over all of Falcon Creek, or did you obtain it over time?

A. No, we took over the whole company on July 14th, and most of the operations were in the Permian Basin in west Texas, and some in Lea County, New Mexico.

Q. Okay, so there are some other Sapient now-operated for Falcon Creek that -- As far as New Mexico, is it all Lea County --

A. Yes, sir.

Q. -- or are there other counties?

A. It's all Lea County.

Q. All Lea County. In the general area, or is it scattered? Lea County is a pretty big county.

A. It's fairly scattered. We have some fields that are populated with wells, but it's generally scattered.

Q. Do you by chance -- It's probably not your field of expertise, and that's okay, but do you remember maybe some of the other gas wells that Sapient operates, what pools those may be in?

A. We operate the West Teas Unit --

Q. That has gas wells in it?

A. I have to defer to these guys.

Q. I understand, I'm --

A. But we do have other gas and oil wells in Lea County.

EXAMINER STOGNER: Okay. I have no other questions of this witness.

Mr. Kellahin, do you have any redirect?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: When you get back to your office, you may want to look at the Bertha J. Barber Com Well Number 13 Y, API Number 30-025-06027. That is in the Unit F, as in foxtrot, of Section 8 next door. There may be or may not be a letter in your files from me to Cross Timbers, to a Mr. Edwin Ryan, dated November the 29th,

1999. This record probably does not exist anywhere else. If it exists there, I'd be surprised, but only --

MR. KELLAHIN: Mr. Examiner --

EXAMINER STOGNER: -- my files, and it's a part of this case file, because it was a part of the administrative application that I pulled out, and it appears that Cross Timbers filed for a nonstandard wildcat Tubb gas proration unit for the west half of the northwest quarter of Section 8, back on November the 5th, 1999.

MR. KELLAHIN: Mr. Examiner, Mr. Perrin's aware of that document because I supplied it to him. We have searched the Sapient records, and we can find no information on that transaction with the Division and Cross Timbers. Our knowledge is, that well is in inactive status, I believe, and I pursued that with Mr. Perrin, and he was surprised to see your letter to Cross Timbers, because he was unaware of that until recently.

EXAMINER STOGNER: Okay, there's just some good information in that of why the rules are like they are.

MR. KELLAHIN: He now knows that, sir.

EXAMINER STOGNER: Good. And for anybody else here, when situations like this occur in some other pools, well, that's why proration happens, Mr. Carr, Mr. Kellahin. This is a good case to kind of set back and review some f the things.

Okay, I didn't want to beat that, I just think it's some important information that needs to be brought up, and since that's part of the case, I made it part of the case.

Also at this time I think it would be important to take the file on NSL-3752 and NSL-3752-A --

MR. KELLAHIN: We have no objection.

EXAMINER STOGNER: -- take administrative notice of those.

And also I'd like to take administrative notice to -- and I made that a copy in here -- file and Order Number R-11,304, issued in Case 12,321. Now, this is our nomenclature.

MR. KELLAHIN: That's the pool-rule hearing case, right?

EXAMINER STOGNER: Exactly, and that's when this particular pool was created, and it's interestingly enough that the east half of that whole section was given to the pool.

Okay, thank you, Mr. Perrin.

Thank you, Mr. Carr and Kellahin.

MR. KELLAHIN: Yes, sir.

Mr. Examiner, at this time we'll call Mr. Bob Von Rhee. Mr. Von Rhee is Sapient's geologist. He spells his last name V-o-n R-h-e-e.

ROBERT W. VON RHEE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Von Rhee, for the record, sir, would you please state your name and occupation?

A. My name is Robert W. Von Rhee. I'm the chief geologist at Sapient Energy Corporation.

Q. Where do you reside, sir?

A. Tulsa, Oklahoma.

Q. On prior occasions have you testified before the Division as a petroleum geologist?

A. No.

Q. Summarize for us your education.

A. I have a bachelor's degree in geology from Lafayette College in Pennsylvania, a master's degree in geology from the University of Illinois.

Q. In what years did you obtain those degrees, Mr. Von Rhee?

A. 1975 and 1977, respectively.

Q. How long have you been the senior geologist for Sapient Energy Corporation?

A. Since October 1st, 2000.

Q. Have you utilized all available geologic data in

this vicinity to analyze what we now call the West Monument-Tubb Gas Pool?

A. Yes, I have, all of the public data that I could acquire.

Q. In addition, have you examined the logs of wells that you believe are relevant to understanding the vertical limits of the pool?

A. Yes, I have.

Q. And have you made an expert geologic opinion concerning the size, shape, orientation and distribution of that reservoir within the area of concern?

A. Yes, I have.

Q. As a result of your analysis and study, have you prepared certain technical displays to illustrate your conclusions concerning the Barbara Number 12 well, the Chevron property to the north and the Conoco-Chevron property to the west?

A. Yes.

MR. KELLAHIN: We tender Mr. Von Rhee as an expert petroleum geologist.

MR. CARR: No objection.

EXAMINER STOGNER: Mr. Von Rhee is so qualified.

Q. (By Mr. Kellahin) If you'll turn, sir -- and we're going to have to mark these as you go through them; I neglected last night to mark these, so we're starting with

your Exhibit Number 12. And Exhibit 12, if you'll fill in the exhibit sticker, is going to be the production plat that you have prepared and provided; is that not true?

A. Yes.

Q. All right. Let's take a moment, look at Exhibit 12, and tell me what you call this.

A. This is a production plat of the nine sections centered on Section 7, 20 South, 37 East. The acreage in question, yellow code for Sapient Energy leasehold, the green showing the Chevron and Conoco leasehold nearby, is the same pattern you saw earlier on Exhibit 1, area map.

I have filtered the wells presented on this map to be those wells that were drilled in excess of 6000 feet.

Q. All right, let's talk about that. When we go back to Exhibit 1, we can look at Mr. Perrin's Exhibit 1, he's got all the wellspots on here. And by filtering, then, you've excluded any wellbore that doesn't provide data to or through the Tubb so you could look at the Tubb?

A. That's correct.

Q. All right. So now when we get to Exhibit 12, we've excluded wells that are not relevant to your investigation?

A. That's correct.

Q. We see in the Unit Letter A of Section 7 the Barbara 12 well, and you've circled that with a red circle,

true?

A. That's true.

Q. You've also circled some five other wells with red circles. What do those represent?

A. The five other wells and the Barber well, if you look on the right-hand side you'll see a legend. The red circle indicates that those wells are wells reporting a completion in the Tubb interval.

Q. Of these completions, how many of these are gas wells?

A. The Barber 12 is a gas well, just one.

Q. The others are oil wells in the Tubb?

A. They appear to be.

Q. All right. Is there a relationship between this single well in the West Monument-Tubb Gas Pool and the Monument-Tubb Oil Pool?

A. What kind of relationship?

Q. A physical relationship in terms of distance. Where is the Tubb Oil Pool in relation to this gas pool?

A. Oh, the best of my understanding is that the Monument-Tubb Oil Pool lies directly east of our acreage in the Barber 12.

Q. Okay. Using the data set for the Tubb interval, have you prepared a structure map that will depict and illustrate your conclusions about the Tubb structure?

A. Yes, I have.

Q. Is there an exhibit that illustrates the Tubb structure that you have prepared and analyzed?

A. Yes, there is.

Q. Let's mark that as Exhibit 13 and look at your structure map. Let's talk first about the conclusions, and then we'll talk about the reasons that support that conclusion, Mr. Von Rhee.

The first conclusion, were you able to make a geologic conclusion concerning whether this Tubb gas well, the Barbara 12, is geologically connected with the oil pool?

A. In my opinion, the Barber 12, while it is geologically correlative to the Tubb Oil Pool, appears to be a separate and distinct accumulation of hydrocarbons.

Q. Does the data set present any indication of concern by you that the Barbara 12 well is a gas well producing a gas cap out of an oil pool?

A. No.

Q. Okay. You have projected through the southwest corner of Section 5 a fault that's oriented northwest to southeast?

A. That's correct.

Q. What is the significance of that fault to you in analyzing the structure?

A. One significance is that the displacement across the fault, while relatively small, is of an order of magnitude sufficient to truncate the porosity zones that we see developed in the Tubb formation and thereby segregate the porosity zones on the other side of the fault.

Q. Can you give us a geologic summary and opinion as to the type of Tubb gas reservoir you're dealing with? Describe what kind of critter this is.

A. Based on my examination of the wells in this plat, the Tubb reservoir is composed of multiple beds of variable lithology, predominantly limestone and dolomite. Within each bed you see porosity development that, for lack of a better term, comes and goes. The development is irregular, and it varies significantly from well to well. The individual beds are highly correlative throughout the area, but the porosity that develops within them is not highly correlative nor, say, highly predictive.

At -- That's it.

Q. All right, let's talk about the methodology that you have selected to analyze the distribution of the reservoir when you prepared your net pay isopach of that reservoir. And before we look at the displays, let's talk about the concept.

Were you able to satisfy yourself to a geologic certainty about the top and the bottom of the Tubb Pool in

which to isopach?

A. Yes.

Q. Within that interval, did you find discrete intervals of dolomite and limestone?

A. Yes.

Q. Did you find that each of those intervals would be such that they would contain recoverable hydrocarbons?

A. Yes.

Q. Were you able to analyze the log data to satisfy yourself that you could make appropriate judgments about the particular porosity cutoff values to use for the dolomite portion of the reservoir?

A. Yes.

Q. And were you able to do so concerning the limestone portion of the reservoir?

A. Yes.

Q. In taking all that data, were you able to satisfy yourself within a reasonable geologic probability of what is the net-pay thickness in the Barber Number 12 well?

A. Yes.

Q. Were you able to do so for the Chevron Number 6 well in the southeast quarter of Section 6?

A. Yes.

Q. Let's look at the isopach. If you'll turn with me, let's look at what we're marking as Exhibit Number 14.

Let's take a moment, let's unfold Exhibit 14. This is your work product on the Tubb interval, and we're looking at the isopach.

I want to start, first of all, with the southeast quarter of Section 6, which is the Chevron-operated acreage. Do you see that?

A. Yes.

Q. All right. I want to look first of all at the Matthews Number 6 well, which is located just below what appears to be the number 8. Do you see that?

A. That's correct.

Q. All right, what does that number 8 represent?

A. That is a data point for the net vertical feet of porosity in the stratigraphic interval that I'm mapping that's in excess of the cutoffs that I developed.

Q. All right. So using that methodology, you have calculated 8 net feet available to Chevron in the Matthews Number 6 well, correct?

A. That's correct.

Q. When we go down south and look immediately north of the Barbara 12 well -- it's not shown on this display -- the Matthews Number 12 well is the well Chevron wants to re-enter, true?

A. That's correct.

Q. There is no data point yet on that well in the

Tubb?

A. That's correct.

Q. All right. Let's go back to the Number 6 well now. You've got 8 feet. Did you use the same methodology in putting net-pay values for each of the wells that have data points on this map?

A. Yes.

Q. So you have consistently and accurately applied the same methodology in preparing the values for those data points?

A. Yes.

Q. Based upon a review of the data, Mr. Von Rhee, what happened when Chevron re-entered the Matthews Number 6 well, deepened it to the Tubb and attempted to produce it?

A. Based on the information I reviewed, the outcome was that the well's reservoir attributes made it tight to produce, not enough fluid -- or couldn't produce enough -- couldn't deliver fluid to the wellbore, I don't remember the exact way it was phrased.

Q. So when we look at the Matthews 6 well and take the contour value of 10 feet on that display through that southeast quarter --

A. Uh-huh.

Q. -- and look at everything north and west of the 10-foot line, what is your opinion about the geologic

probability that the Tubb reservoir would contribute gas north and west of the 10-foot contour line?

A. My opinion is that it would be too tight to produce.

Q. When we look at the southeast quarter of Section 6, the Chevron 160 acres --

A. Yes.

Q. -- how much of that 160 acres do you believe has the opportunity to contribute Tubb gas to a well in the southeast quarter?

A. I'd estimate about 40 to 50 acres.

Q. Okay, let's look now in the east half of the east half of 7 --

A. Okay.

Q. -- and look at the Barbara 12 well. Using the same methodology, what is the net-pay thickness you have calculated for the Sapient well?

A. Thirty feet.

Q. When you compare the east half of the east half of 7 to the southeast of 6 and look at the potential productive acreage in relation to those two areas, what do you conclude?

A. The potential productive acreage in the east half, east half of 7 is -- some math -- three to four times as great as in the southeast of Section 6.

Q. All right. Draw the geologic conclusion and comparison, if you will, based upon your data and maps, between the east half of the east half of 7 and the west half of the east half of 7.

A. Based on these maps, the west half of the east half of 7 should encounter thinning reservoir and ultimately have less productive acreage as in the east half of the east half of Section 7.

Q. Let's look now to validate the isopach by comparing it to your structure map. If you'll take a moment, let's unfold the structure map, which we're going to mark as Exhibit 15 --

A. That's what we did. Didn't we do the structure? Oh, you mean the cross-section?

Q. I'm sorry, the cross-section is Exhibit 15, and let's compare the cross-section, Exhibit 15, to the isopach.

I don't propose that you describe the entire cross-section, Mr. Von Rhee, but I would like to direct your attention to two wells. If you'll start on the far left with the letter A, let's look at the log of the Sapient well and describe for Mr. Stogner how you have calculated the net-pay components for the Tubb gas reservoir in that log for that wellbore.

A. The log for the Sapient Barber Number 12 on the

left-hand of cross-section A-A' is a neutron lithodensity log, and a line has been scribed at the 4-percent porosity value. The porosities are presented on this log, based on a limestone matrix density. And based on the work that I did in the area, the equivalent limestone and equivalent dolomite porosities in excess of 4-percent cutoff on this presentation would be contributing porosity. And so --

Q. That's on what, the limestone or the dolomite?

A. Well, the effect of scribing a 4-percent line on this porosity log, which is calculated based on a 2.71 grain density, matrix density, is that you are picking porosity in excess of 4 percent in the limestones, and you're picking porosity in excess of about 10.3 percent in the dolomite.

Q. As a result of that analysis, do you have confidence that you have arrived at an appropriate porosity cutoff value to use when you provide that information to your reservoir engineer to do calculations?

A. Yes.

Q. And what number, then, did you use and provide to him?

A. The 33 feet, wasn't it?

Q. Yes, sir.

A. Right.

Q. Thirty-three feet of net porosity thickness,

using what cutoff?

A. The cutoff presented on this log in cross-section A-A'.

Q. All right. So you've appropriately adjusted the information given and calculated to deal with the cutoffs in the dolomite and the cutoff values in the limestone?

A. Yes, I have.

Q. And you use that consistently throughout your analysis?

A. Yes, I have.

Q. Let's compare the logs of the Sapient Barber 12 well to the Chevron Matthews Number 6 well, up in the southeast of 6, which is the next log. Make that comparison for us.

A. Okay, the log for the Chevron Number 6 is a sonic presentation. It presents microseconds per foot. Two porosity cutoffs are indicated on this log. One is at 52 microseconds and one is at 58 1/2 microseconds. The 52 microseconds cutoff is the applicable cutoff in the limestones, delivering porosity that I felt was contributing porosity, and the 58.5 cutoff is a cutoff for the dolomitic portions of the reservoir as contributing porosity.

Q. Okay. Any indication on analyzing this that the results from the Matthews 6 are anything other than the

fact that the Tubb is a tight reservoir at that position and won't produce?

A. No.

Q. All right, let's go back to the isopach. How long, Mr. Von Rhee, have you been analyzing logs and wells and doing studies like you've just done on the Barbara 12 well? How long have you been doing it?

A. Over 20 years.

Q. Based upon your 20 years of experience and judgment and expertise, have you determined that the most probable orientation of the Tubb Reservoir as it moves to the south of the Barbara 12 well is as you have depicted it?

A. Yes.

Q. Explain for us the rationale for your judgment and opinion that the reservoir has this orientation and axis.

A. There's a very limited data set on which to base this. If this reservoir were oriented northwest to southeast, parallel to the distribution of the distribution, you would expect, anticipate to see, I think, a little more consistent porosity thicknesses as you move through the data.

As you move through the data from the northwest to the southeast, you move from thin data points into

thick, back into thin, for instance in Section 6, back into thicker data points in 5 and 7 and the northwest of 8, back into thin in the middle of 8, and thick again in the southeast of 8 and thin again in the far southeast of 8.

So despite the restricted data points, it gives the appearance of intersecting a series of porosity lobes that trend from northeast to southwest or at right angles to the trend of the data or some oblique angle.

Q. The orientation of the Tubb trend that you have depicted in which the Barbara 12 well produces is consistent, then, with the data available for you in the area for those Tubb penetrations?

A. Yes, I believe so.

MR. KELLAHIN: Mr. Examiner, that concludes my examination of Mr. Von Rhee. We move the introduction of his Exhibits 12 through 15.

EXAMINER STOGNER: Exhibits 12, 13, 14 and 15 will be admitted into evidence if there's no objection.

MR. CARR: There are no objections.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

Mr. Carr, your witness.

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Von Rhee, if I understand your testimony, your geological interpretation shows substantial reserves

under the east half of the east half of Section 7; is that correct?

A. Yes.

Q. And these exhibits were prepared, it looks to me like two days ago; is that correct?

A. That's when they were printed? When were they actually prepared?

A. They were prepared within the last week.

Q. And at the time that they were prepared, you knew that Sapient was coming before this agency seeking approval of an east half-east half unit, did you not?

A. That's correct.

Q. And you've testified about the rationale you used in applying the data. If I look at the Bertha Barber Number 12 in 7, did you have any data available to you south of that well on that spacing unit?

A. No.

Q. Did you have any west of that well available to you, or southwest?

A. No.

Q. And so as you interpret the reservoir extending off to the south and west, you're really analogizing from information off to the north and the east; is that right?

A. That's correct.

MR. CARR: That's all I have, thank you.

EXAMINATION

BY EXAMINER STOGNER:

Q. Okay, in Exhibit Number 14, drop down to the southeast quarter of Section 8, and back to the east there's an extensive Monument-Tubb Pool; is that your understanding?

A. Yes, sir.

Q. Okay, and it's an oil pool. And I guess -- and you testified that you believe this is two structures, that the West Monument-Tubb Gas Pool is not part of the Monument Pool at all, geologically speaking?

A. That's correct.

Q. Okay, if I follow that contour line, maybe a 30-foot contour line, there again on Section 14, that's to the -- that's your far eastern one. It kind of connects those two pools, the same as the 25-foot contour line. I guess I'm not catching that. I don't see why these are two separate pools.

MR. KELLAHIN: Are you looking at the isopach, Mr. Stogner?

EXAMINER STOGNER: Yeah, I'm looking at Exhibit Number 14, which is the isopach.

MR. KELLAHIN: If you compare it to the structure too -- make that comparison, Mr. Von Rhee.

THE WITNESS: The maps are incomplete to

sufficiently describe by the contours the conclusion that I presented to you that they were separate.

You'll notice a thin data point in the southeast of the northwest of Section 8. The porosity is thinning in that direction. The data also show the porosity is thinning from the northeast-northeast of 17 to the southwest of the southeast of 8. We go from 34 to 19.

What these maps ultimately need to show is the likelihood that the Tubb reservoir thins to a point that effectively segregates the fluids on the southeast side of Section 8.

In addition, there's a structural saddle in the southeast of 8. It's not very apparent, based on this limited data map, but on Exhibit 13 you reach a low point structurally in the southeast corner of 8, and then you have a well that comes back upstructure. It's minor, but it's there.

So we have thinning reservoir, we have a potential structural saddle, and the dimensions of the saddle, once again, are similar to the dimensions of the porosity units we're speaking of.

In addition, I did look at the production further east in the Monument-Tubb field over about, I'd say, 20 or 30 wells that are immediately east of this area, and about the highest cumulative GOR I saw there was about 500,000.

And yet it was fairly good oil produced.

Our well, the Barber Number 12, was almost a dry gas well.

So looking at the geology of the faults, the thinning reservoir, the structural saddle and the much different fluid content of the Barber 12, I felt like it was probably a separate and distinct accumulation.

Q. (By Examiner Stogner) Okay, I immediately, whenever I saw this, thought of a gas cap through that Monument-Tubb.

A. Excuse me?

Q. You're saying there's enough separation between these two pools that that's not likely?

A. I don't think so.

Q. And why is that?

A. For the reasons I just stated. I mean, I'll run through them again, I...

Q. Oh, there's no need of doing that, I can read --

A. Well, I may not have been clear.

Q. Okay, in referring to Exhibit Number 12, the only Tubb producers are those marked in red; is that right?

A. To the best of my knowledge, that's correct.

Q. Okay, how about the wells that -- I mean, how about historical. Some of these could be old producers?

A. This included, I think, as much as I could tell,

the historical completions also.

EXAMINER STOGNER: Thank you, Mr. Von Rhee.

Any other questions of this witness?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: You may be excused.

MR. KELLAHIN: Mr. Examiner, our last witness is Mr. Kyle Travis. Mr. Travis is a petroleum engineer.

P. KYLE TRAVIS,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. All right, sir, are you ready?

A. I'm ready.

Q. Mr. Travis, for the record, sir, would you please state your name and occupation?

A. Paul Kyle Travis. I'm president of Sapient Energy.

Q. Where do you reside, sir?

A. Tulsa, Oklahoma.

Q. In addition to being president of Sapient Energy Corporation, do you hold any technical degrees?

A. Yes, I have a petroleum engineering degree from the University of Oklahoma.

Q. In what year did you obtain that?

A. I graduated in 1978.

Q. What are your responsibilities and duties for Sapient Energy Corporation?

A. In addition to being president, I am operations manager, and so the field operations and engineers all report to me.

Q. Have you prepared reservoir engineering calculations concerning the Barbara 12 well that Sapient now operates?

A. Yes, the Barber 12.

Q. I'm sorry, the Barber 12 well.

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Travis as an expert petroleum engineer.

MR. CARR: No objection.

EXAMINER STOGNER: Mr. Travis is so qualified.

Q. (By Mr. Kellahin) Mr. Travis, have you been provided by Mr. Von Rhee his geologic conclusions and opinions concerning geologic parameters and values?

A. Yes, I have.

Q. And have you utilized that geologic information to make a volumetric calculation concerning the Barber 12 well?

A. Yes, I have.

Q. In addition, have you applied conventional

reservoir engineering methodologies and calculations to arrive at an estimate of the original gas in place for that well?

A. Yes, I have.

Q. Has that information been summarized in the form of an exhibit?

A. Actually several exhibits.

Q. All right, let's look at Exhibit 6 [*sic*] first and have you identify for us what we're looking at.

A. Okay, Exhibit 6 is entitled "Barber 12 Volumetric Calculations", and I list my assumptions there. Obviously we don't know acres. We're trying to get to a drainage figure.

The average thickness I used was 30 feet, which was the amount of pay encountered in the Barber 12 well.

Porosity, calculated an average porosity of 11.8 percent, calculated average water saturation 21.2 percent.

Then the initial pressure, I had to look at an analogous well. When this well was recompleted, there was a pipeline right there, so there was no shut-in time. Cross Timbers did not shut the well in. As soon as they completed the well, they immediately started producing it to sales. There was no initial pressure.

So in the absence of that, I looked at *Dwight's Data* in that area and found a virgin pressure in the Warren

field about ten miles away that had initial bottomhole pressure of 2570 p.s.i. at about the same depth, the 6400 feet.

Q. Is it a reasonable engineering judgment to use that methodology to arrive at original reservoir pressure in the Tubb at this depth?

A. Yes, in the absence of measured data, it's the best method I had available to me.

Q. As a result of this data, then, you are able to make a conventional engineering calculation about the volume of gas per acre-feet, true?

A. That is correct.

Q. You are now at the point in time of analyzing this as a reservoir engineer to make some calculations so that you can determine what is the probable drainage area for the Barber Number 12 well?

A. That is correct.

Q. And you can use multiple different ways to do that, one of which would be by decline analysis?

A. Correct.

Q. And have you done that?

A. Yes.

Q. And another one is by material balance. Have you done that?

A. Yes, I have.

Q. As a result of the decline analysis, what do you estimate in your professional opinion to be the drainage area attributable to the Barber Number 12 well?

A. Okay, let's stay on Exhibit 6 first, and that original recoverable gas in place that I calculate there of .75 million cubic foot per acre-foot will be used later on in some of these other calculations.

Okay, now we can move on the decline analysis.

Q. Before you run through the assumptions and calculation, what is the conclusion under that decline-analysis methodology as to the area being drained?

A. Approximately 107 acres drainage.

Q. All right. When we get to the material balance calculation, we'll look through the assumptions there, but the final calculation is 103 acres?

A. Correct.

Q. Using two different methodologies, then, you get drainage of substantially less than 160 acres?

A. That is correct.

Q. When we look at the common division spacing of 40, 80s and 160 acres, what is the best fit for spacing for this well?

A. In my opinion, 80 acres.

Q. Let's go back to the decline-curve analysis, and lead us through the calculation by which you determined in

your best judgement that you're affecting 107 acres.

A. Okay. You can look back at Mr. Perrin's exhibit, where he listed the produced gas volumes on a monthly basis, and you can see the last three months of 2000 there was very little decline that -- The produced volumes were 40.7 million, 39.1 million and 39.9 million. Just very little decline had been exhibited up to that point.

So it's hard to extrapolate, you know, a decline without a declining well. The well has --

Q. But there's a way to do that, isn't there, Mr. Travis?

A. There are certainly ways to estimate that.

Q. And you've overcome that limitation by analyzing the character and performance of the Tubb gas well as you would expect it to perform, and in doing so you've established a decline rate and an expected life?

A. That is correct. The well has actually -- That table that I referred to through December was the last month of actual sales.

We have pumper estimates that actually show in January it was declining down to 38 million. The first couple weeks of February, the well was producing about 1200 MCFD.

So it looks like it's crossed over and is now starting to decline.

Q. You're getting changes in your --

A. -- monthly production.

Q. Monthly production is decreasing. And do you have pressure data to show you that the pressure is dropping in the well?

A. The flowing tubing pressure --

Q. The flowing tubing pressure is dropping.

A. -- is dropping as well. So what has happened is, the well was not produced at its full capability and was restricted to something in the 40- to 45-million-a-month range. It looks like now that it's crossing that point where it will no longer be able to do that and will start declining.

So I then looked at -- In absence of an extrapolatable decline, I said, what is a reasonable well life for a well of this nature? and felt it would probably produce for somewhere in the 15- to 25-year range and somewhat arbitrarily used 20 years. The look-alike well in -- or the well in Warren where I took the pressure, it produced for 17 years. I thought 20 years was a reasonable estimate. So in order to produce it at a 20-year well life, it required me to decline the well at 24 percent from this point forward.

Q. Is that within the range of reasonableness in projecting a decline rate for a Tubb gas well?

A. Yes.

Q. All right. Having finished this calculation and derived at 107 acres, is there an established discipline for a reservoir engineer to attempt to analyze this in a different way to either confirm or reject what you've done by the decline analysis method?

A. Yes, material balance.

Q. All right, let's look at the material balance. Exhibit 18 is the summary. It shows the conclusion of 103 acres.

A. Right.

Q. When you run through these assumptions and have this calculation that has a close fit between 103 and 107 acres, what does that tell you?

A. Well, I feel that the methods confirm each other and give a reasonable estimate of the drainage area, approximately 100-plus acres.

Q. You said one of your responsibilities and duties is the operational aspects of the well for Sapient; is that not true?

A. Correct.

Q. As part of those responsibilities, have you caused to be prepared an estimate of what it would cost to drill and complete a new Tubb gas well in this area to access the Tubb?

A. Yes, I did.

Q. Let's look at Exhibit 19 and have you tell us what those numbers are.

A. This is an AFE provided by Gerald Lucero in our office for drilling of a 6600-foot Tubb well, which is a well sufficient to test the Tubb in the east half -- excuse me, the west half, east half of Section 7. And it shows a completed well cost of approximately $347,000.

Q. Does Mr. Lucero regularly and routinely perform this function under your direction and supervision?

A. Yes, he does.

Q. And do you find his work to be accurate and reliable?

A. Yes, it is.

Q. And do you make expenditures based upon his estimates on a regular basis?

A. Yes, I do.

Q. In your opinion, what would it cost to drill and complete a Tubb gas well in this area?

A. $347,000.

MR. KELLAHIN: That concludes my examination of Mr. Travis, Mr. Stogner.

We move the introduction of his Exhibits 16 through 19.

MR. CARR: No objection.

EXAMINER STOGNER: Exhibits 16 through 19 will be admitted into evidence.

Thank you, Mr. Kellahin.

Mr. Carr, your witness.

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Travis, in your calculations you've set out the basic assumptions you have utilized, and in each of them you have utilized a thickness of 30 feet; is that correct?

A. That is correct.

Q. If I look at the Bertha Barber well, have you not perforated only 21 -- say 25 feet?

A. That is all cross -- Let me verify that. That may well be, but that doesn't limit the pay.

Q. If you do overestimate the thickness it would, in fact, result in a smaller drainage area; isn't that fair to say?

A. Yes, but I did not overestimate the thickness.

Q. Even though you perforated less than 30 feet?

A. Right, they did not perforate all the porosity.

Q. And you're sure that's porosity, not shale?

A. Yes, I am.

Q. If we look at your calculations and you come up with estimates of number of acres to be drained of either

103 or 107 acres, from -- What acres are actually going to be drained? We would drain, it's fair to say, the northeast-northeast of 7 where the well is located; isn't that fair to say?

A. Let me get that map out. The northeast-northeast of 7, yes.

Q. Okay.

EXAMINER STOGNER: What map are you referring to, Mr. Travis?

THE WITNESS: I was looking at the isopach map.

EXAMINER STOGNER: Exhibit Number 14.

Q. (By Mr. Carr) So you're draining the northeast of the northeast. That's 40 acres. We'd also be draining with that well reserves from the southeast-southeast of Section 6, will we not?

A. I don't believe once Chevron drills their well that we will be.

Q. To get this 102, 103 acres, what about we look at the 40 acres being the northwest of the northeast? Would it drain that acreage?

A. I don't think so.

Q. Where are you putting this 102 acres, Mr. Travis?

A. I think it will be an elongated elliptical shape that will likely encompass all of the northeast-northeast of 7. Without a well in 8, and with the thickness

exhibited over there, I think we'll get some bleed-off into there, and I think it will be, again, an elongated elliptical encompassing the southeast-northeast so that the east half-northeast, with a little bit into 8 and possibly a little bit into the southwest-northeast of 7.

Q. If we look at Section 7, is it your testimony that there are not producible reserves under the northwest of the northeast?

A. That there are not producible reserves. No.

Q. Do you think there are, under the northwest of the northeast?

A. Yes, I do.

Q. To get those reserves, Conoco and Chevron would have to drill a well; isn't that correct?

A. That's my opinion.

Q. If they don't drill a well, would those reserves be produced by the Barber Number 12?

A. Possibly, again some in the very, very south portion of that 80 acres.

Q. In your opinion, are there no producible reserves in the northwest of the northeast of 6?

A. You said the northwest of the northeast of 6?

Q. I'm saying the southwest --

A. Okay.

Q. -- southeast, I'm sorry, of 6.

MR. KELLAHIN: I'm confused now. Southeast-southeast of 6?

MR. CARR: Southwest-southeast of 6.

MR. KELLAHIN: Okay.

THE WITNESS: No, I -- there may -- you're starting to get into the edge there, but there probably are producible reserves under there.

Q. (By Mr. Carr) Now, as we developed, there was a well drilled in the northwest of the northeast of 7. I mean, that could change the interpretation; isn't that right?

A. That is correct.

Q. Aren't we creating a situation where if Conoco and Chevron want to produce their reserves in the west half of the east half, they're going to have to drill a well; isn't that right?

A. Correct.

Q. If Chevron wants to produce the reserves available to it north of there in the southeast of 6, it has to drill or recomplete a well, correct?

A. Correct.

Q. If the owners of the southwest of 5 want to produce the reserves they have there, they have to drill a well, do they not?

A. Correct.

Q. And you, if you're going to produce reserves off of the acreage being the west half of the northwest of 8, you have to drill a well over there too, would you not?

A. Run that by me again.

Q. I mean, wouldn't you -- To produce reserves under the west half, northwest of 8, do you have to drill another well?

A. Yeah, I think -- Left undrilled, I think the Barber 12 will get some of those reserves over there.

Q. Are your royalty owners the same in Section 8?

A. I do not know. I believe they are. Yes, they are.

Q. But the scenario could be, you have a well that will drain 107 acres. We assume it's radial. Do you think that's fair to assume?

A. No.

Q. Do you think it would at least be in the area in this reservoir with gas saturation, not down in the oil leg?

A. I do not believe -- Yeah, I believe it will be in the gas saturation.

Q. And is it your testimony that that 102 acres is going to fit right into the east half, east half?

A. No, I believe I've already stated that I think the drainage will slip over into part of the northwest of 8

and part of the southwest-northeast of 7, as well.

Q. Okay, and without the wells in, say, the southwest-northeast of 7, those reserves would ultimately be recovered by your well, the Number 12?

A. A small portion.

Q. And so to recover the reserves that can be drained by your well, your recommendation is that Chevron and Conoco spend about $350,000 for another well?

A. Right. The good thing is, it certainly, I don't think, could be construed as waste. If they had just a fraction of the well that we do -- say they got 1 BCF reserves. At today's gas prices and at those drilling-completion costs, they would get about a ten to one, which is hardly poor economics.

Q. Are they going to recover more gas with that second well than could be recovered if the Bertha Barber 12 produced?

A. I believe so.

Q. So it's not just rate acceleration you're talking about?

A. Right --

Q. And --

A. more reserves.

Q. -- it's geological interpretation of the reservoir as it extends off to the south and the west of

your location?

A. Right.

MR. CARR: That's all I have.

EXAMINER STOGNER: Thank you, Mr. Carr.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Travis, did you do a reservoir assessment of the Monument-Tubb back to the east, over in 8?

A. I looked at it and looked at certain aspects of it.

Q. What aspects did you look for?

A. One of the things I looked at were the GORs of the producing wells to see if, indeed, it appeared like -- if we might be a gas cap to that reservoir.

And one of the things that I found was that the -- if -- GORs in the south half of 9, which of course is the section immediately east of 8, had very high GORs. One well had a GOR of 594,000, another one 454,000, and then the GOR fell off away from there to lower volume -- or lower ratios, and some in the 7000-to-10,000 range, even as low as 3000.

Then also I looked at the quality of wells going from the meat of the field in Section 9, transversing west into Section 8, and you really see the quality of wells fall off when you get into those two producers in the

southeast of 8. One well has cum'd 1781 barrels and 8000 MCF, and another well, 12,000 barrels and 30 million cubic feet. One location offsets the wells that cum'd 369 million cubic feet of gas and 197,000 cubic feet of gas. So it looks like there's a quality deterioration as you move west into 8.

And further, again, you know, there's a lot happening stratigraphically here with porosity pinchouts, and it looks like that's why the development stopped there at 8, as you started getting low-quality reservoir and is part of the reason for separating Section 7 from Section 8.

Part of my point there, Mr. Examiner, is, if there is a gas cap associated with that, it appears more likely that it's in that south half of Section 9, just looking at the GORs.

EXAMINER STOGNER: Okay, I have no other questions at this time. I may recall --

MR. CARR: Mr. Stogner --

EXAMINER STOGNER: I'm sorry.

MR. CARR: -- could I follow up on that?

EXAMINER STOGNER: Yes, please.

FURTHER EXAMINATION

BY MR. CARR:

Q. Just to be sure I understand you, Mr. Travis, Mr. Stogner asked you some questions about, I believe,

Monument-Tubb Pool to the east and about wells in a gas cap.

Do you believe that those wells and the way they perform set any sort of a precedent that could be followed in this case?

A. No, I'm not saying that.

Q. Okay, I just wanted to be sure. I couldn't tell whether the conversation was going.

You would agree with me, would you not, that you have frac'd the Bertha Barber Federal Number 12, and the production substantially increased at that time --

A. Yes, it did.

Q. -- is that fair to say?

Are you aware of any of these other wells having had similar fracture-stimulation treatments?

A. I'm not aware of the --

Q. All right, that's all.

A. -- stimulation history of those.

MR. CARR: I just wanted to be sure there wasn't something going on that I was missing. Thank you.

EXAMINER STOGNER: No other questions of Mr. Travis at this time. I may recall him later.

MR. KELLAHIN: If it's appropriate with your, Mr. Examiner, might we take a short recess, and then I can huddle with my experts? And I think we're about finished,

but I want to make sure I haven't overlooked something.

EXAMINER STOGNER: Okay. And in the meantime I'll go visit the ghost of the Northeast Lovington-Strawn.

Ten-minute recess.

(Thereupon, a recess was taken at 10:55 a.m.)

(The following proceedings had at 10:22 a.m.)

EXAMINER STOGNER: This hearing will come to order. Mr. Kellahin, is there anything further on your side?

MR. KELLAHIN: No, Mr. Stogner, that concludes our presentation on behalf of Sapient.

EXAMINER STOGNER: Thank you. Mr. Carr?

MR. CARR: May it please the --

EXAMINER STOGNER: Now, before we get started, did all five of your witnesses stand up? I really didn't pay any attention.

MR. CARR: I don't know.

EXAMINER STOGNER: Is there any additional witness that was not in the room? Did all five of you get sworn in?

Okay, I remember seeing somebody else come in now.

Okay, then in that case, Mr. Carr?

MR. CARR: May it please the Examiner, at this time we call Charles M. Rule to the stand.

CHARLES M. RULE,

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. Charles M. Rule.

Q. Where do you reside?

A. Midland, Texas.

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

A. Conoco, Inc.

Q. And what is your position with Conoco?

A. I'm a landman.

Q. Have you previously testified before this Division and had your credentials as an expert in petroleum land matters accepted and made a matter of record?

A. Yes, I have.

Q. Are you familiar with the Application filed in the cases that are before the Examiner in the hearing here today?

A. Yes, I am.

Q. And are you familiar with the status of the lands in the area which is the subject of this hearing?

A. I am.

MR. CARR: Are Mr. Rule's qualifications

acceptable?

EXAMINER STOGNER: Mr. Kellahin, do you have any objection?

MR. KELLAHIN: No, sir, Mr. Examiner.

EXAMINER STOGNER: Mr. Rule is so qualified.

Q. (By Mr. Carr) Mr. Rule, would you briefly state what Conoco seeks in this case?

A. We seek a denial of the Application of Sapient Energy and development of this acreage on a standard proration unit.

Q. Conoco is not opposing the unorthodox well location?

A. No, we're not.

Q. What is the current status of the acreage in the area which is the subject of this hearing?

A. By "status" do you mean, is it currently leased or --

Q. Are we looking at state, federal or fee tracts, do you know?

A. Okay, yes, federal and fee. It varies from tract to tract.

Q. Have you prepared an exhibit which shows the status and the ownership of the acreage in question?

A. Yes, I have.

Q. Has that been marked Conoco Exhibit A?

A. Exhibit A.

Q. Would you just refer to that exhibit and review the information on it for Mr. Stogner?

A. Okay, I guess starting in Section 6, the Chevron tract, that's a fee tract that's owned, according to our records, by Chevron 100 percent.

Going down into Section 7, Conoco tract, the west half of the east half, is a federal lease. And this ownership that I'm showing here in this west half, east half, is below the base of the Blinebry only. It varies from formation to formation.

Q. And below the base of the Blinebry, who owns in the Tubb formation?

A. Okay, that would be as shown on the map. That's Conoco with 37-plus percent, Phillips with 25, ARCO with 18.7, Chevron with 18.7, and then three individuals with a smaller percentage after that.

Q. Was Conoco Exhibit A prepared by you?

A. Yes, it was.

Q. Mr. Stogner, we move the admission of Conoco Exhibit A.

EXAMINER STOGNER: Exhibit A will be admitted into evidence.

MR. CARR: And those are the only questions I have on direct of Mr. Rule.

EXAMINER STOGNER: Mr. Kellahin?

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Good morning, Mr. Rule.

Let me look at Exhibit A with you. It shows a date of February 23rd --

A. Yes, sir.

Q. -- on when this thing was prepared. What is the vintage of the title documents that represent this distribution of interest for the west half of the east half of 7?

A. That is based on a title report I had done about a year and a half ago. And I felt it was still accurate and used it to prepare this map.

Q. Do you know from reviewing that title opinion whether this distribution of percentage interests in the Tubb would be based upon documents that are of public record?

A. I believe so, yes.

Q. Are there any of these percentages that are based upon contracts or agreements that have not been placed of record?

A. No, not to my knowledge.

Q. What are your responsibilities for Conoco, Mr. Rule?

A. I'm a landman, and I work southeast New Mexico, Lea County.

Q. Would that include the Monument area of Lea County, New Mexico?

A. I believe so, yes.

Q. You said --

A. I'm not exactly sure where the Monument area would be, but I believe so, yes.

Q. All right, but you're responsible for the land matters within Lea County?

A. A portion of Lea County.

Q. All right, sir.

A. Basically the eastern half of Lea County. We have another landman who handles the western half.

Q. All right, and who is that other landman?

A. Carl Sherrill is his name.

Q. All right. How long have you been employed by Conoco, Mr. Rule?

A. A little over 11 years.

Q. Do you know what Conoco system is in place for monitoring wells in the Monument area?

A. In the Monument area specifically?

Q. Yes, sir.

A. No, I do not.

Q. Does Conoco have operations of wells at any depth

within this Monument area that's been described on the Sapient exhibits?

A. I'm not sure.

Q. Who at Conoco monitors the Oil Conservation Division hearing docket; do you know?

A. It would be a combination of people. I guess Kay Maddox would be primarily responsible.

Q. And who does that for Lea County; do you know?

A. I believe that would be Kay.

Q. When the Division declares a new pool in an area where Conoco has working interests of operations, who at Conoco is responsible for knowing about that activity?

A. I believe the initial responsibility would be from Kay, and then it would filter out to the teams from that point.

Q. All right. When did Conoco first become aware of the Cross Timbers-Tubb gas well in Section 7?

A. I'm not sure.

Q. When did Conoco first become aware of Chevron's request for an unorthodox well location for the Matthews Number 12 well?

A. I don't know the exact date, but my recollection is sometime last summer.

Q. Was that --

A. That's the earliest I recall, and -- I --

Q. Was that contact to you?

A. No, it was not.

Q. All right, how did you become aware of it?

A. Again, just through the -- as things filter through the team.

Q. Would you be the land person responsible for dealing with the Sapient well and the Chevron well?

A. To the extent that there are land issues involved, yes.

Q. Would you be the person responsible for filing any objection to the Chevron unorthodox location that moves towards the northeast quarter of Section 7?

A. I would be involved in that effort, I would be consulted; I would not actually do it.

Q. Do you know why Conoco did not object to the Chevron unorthodox well location that encroached towards the northeast of 7?

A. I do not.

Q. Did you have any conversations with Mr. Lloyd Trautman of Chevron concerning either the Chevron well or the Sapient well?

A. Not to my recollection.

Q. Okay. Do you know why Conoco did not file an objection to the Chevron well location?

A. No, I do not.

Q. When did you first hear or become aware of the Sapient Application for approval of the nonstandard proration unit?

A. Again, it would have been some time after it was filed.

Last summer to the fall, as I recall, is when the whole thing started heating up, and we became aware of it.

Q. Okay, so prior to October of last fall, you were not aware of the permitting inadequacies of the Sapient well in terms of approval of its spacing unit?

A. No, I don't believe so.

Q. Were you aware of the issuance by the Division of a discovery for this Tubb gas well and the declaration of the West Monument-Tubb as a gas pool?

A. No.

Q. Is there someone at Conoco that's responsible for monitoring what offset operators do?

A. I don't know that there's any particular individual that has that responsibility. I think it kind of falls on different people on the team to monitor that sort of thing.

MR. KELLAHIN: All right, sir. No further questions, Mr. Stogner. Thank you.

EXAMINER STOGNER: Mr. Carr, any redirect?

MR. CARR: No redirect.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Rule, who contacted Mr. Carr to represent Conoco in this matter?

A. I believe I did.

Q. And when was that?

A. I don't remember the exact time. It would have been sometime this fall, I believe.

Q. Mr. Rule, your coverage of Lea County New Mexico, it says you cover a portion of Lea County on the eastern part; is that correct?

A. Yes, sir.

Q. Is that both oil and gas --

A. Yes, sir.

Q. -- production?

A. Yes, sir.

Q. Do the same people in Conoco monitor oil, the extension and creation of oil pools, as do the creation and extensions of the Division's gas pools?

A. I believe so.

Q. Same people.

And the USBLM, as far as the west half of the east half, they're the royalty interest owner --

A. Yes, sir.

Q. -- is what you're showing?

A. Uh-huh.

Q. Do operators still get contacted by the BLM for -- what do they call it, offset drainage review or something to that effect, when a gas well or an oil well is drilled on maybe state or federal land, or even state or fee land or even federal land, don't they go to the operator that's offsetting?

A. I believe so, if they believe there's a reason to believe that they're being drained, yes, sir.

Q. Okay, did Conoco -- Who's the lessee of the west half of the east half on the --

A. The record title owner?

Q. Yes.

A. That's Conoco.

Q. Okay, was Conoco contacted by the BLM?

A. No, sir.

Q. Have you contacted the BLM to see if they were aware of this --

A. No, sir.

Q. -- matter? You haven't talked to anybody.

EXAMINER STOGNER: No other questions?

MR. KELLAHIN: Not from me.

EXAMINER STOGNER: You may be excused.

MR. CARR: Mr. Stogner at this time I call Bruce Wiley, W-i-l-e-y.

EXAMINER STOGNER: Mr. Carr?

BRUCE H. WILEY,

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. Bruce Henry Wiley.

Q. Mr. Wiley, where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. Conoco, Incorporated.

Q. And what is your position with Conoco?

A. I am a petroleum geologist.

Q. Have you previously testified before this Division?

A. No, sir.

Q. Could you briefly review your educational background and work experience for Mr. Stogner?

A. I graduated from Middlebury College in 1972 with a bachelor of arts degree and a major in geology; I graduated from the University of Washington in 1979 with a master of science degree in geological sciences.

I have worked for 25 years as a petroleum geologist with four companies, Texaco, Marathon Oil

Company, Transco Exploration Company, and most recently, the last eleven years, with Conoco, Incorporated.

Q. Are you familiar with what Sapient is seeking in these cases?

A. Yes, sir.

Q. Have you made a geological study of the portion of the West Monument-Tubb Gas Pool that's involved in this case?

A. Yes, sir.

Q. And are you prepared to share the results of your work with Mr. Stogner?

A. Yes, I am.

MR. CARR: We tender Mr. Wiley as an expert witness in petroleum geology.

EXAMINER STOGNER: Mr. Wiley is so qualified.

Q. (By Mr. Carr) Mr. Wiley, you've prepared exhibits for presentation here today?

A. I did.

Q. Let's go to what has been marked as Conoco Exhibit Number 1. I'd ask you to identify this and review the information on this exhibit for Mr. Stogner.

A. Okay, Exhibit 1 is a structure map. The map datum is 135 feet below the Tubb marker. The scale is one inch equals 1000 feet. The yellow coloring shows the Conoco interest leasehold, the red shows what we interpret

to be the gas cap. The green coloring is what we interpret to be the oil leg. This is all pertaining to the Tubb-Monument field now, gas and oil field. The green circles are Tubb oil producers, and the red circles are Tubb gas producers.

The area that's covered hachured green and red is the range of uncertainty between the possible top or base of the gas-oil contact.

Also shown on the map is cross-section A-A', which goes from the southwest, the Barber Number 1 Federal well that Conoco drilled, up to the northeast, showing the Barber B17 well, which is A'.

The first thing we'd like to show with this map is that the well control clearly demonstrates that there's a subsidiary closed structure on which the Barber 12 well, the Sapient Barber 12 well, is drilled. The anticlinal axis runs from northwest to southeast on that structure.

The highest point on the structure is the Phillips Number 11 well, located in the northwest corner of Section 6. But only slightly lower is a second, subsidiary high, at the Barber 12 well, which has a high of minus 2794 feet on the map data.

The lowest closing contour on this subsidiary structure is at minus 2880, and that defines the subsidiary closure that we believe there is a gas cap at the crest of

that.

There are three contacts shown on this map. One is the base of the -- Okay, let me back up just a second now. There are six producing wells in the Tubb formation shown on this map. Five of those are gas wells -- I mean, five of those are oil wells, and they have gas-oil ratios, which are posted next to the wellbore symbols, of less than 4568. That's the highest gas-oil ratio.

There's one gas well shown on the map, and that is the Barber 12 well, and that has gas-oil ratio of 400,000 -- actually 406,607, and that's lifetime gas-oil ratios.

So what we see here is that there is a two-orders-of-magnitude-higher gas-oil ratio in the Barber 12 well than any of the other oil wells on the map. We believe that demonstrates the presence of a gas cap. Clearly it's a gas well by the Commission's definition of greater than 100,000 GOR. We believe that the structure, combined with the GORs, demonstrate that there is a gas-oil contact -- or that there's a gas cap present.

We've attempted to estimate where the gas-oil contact is and where the oil-water contacts are, and we've done that by looking at the perforations in the different wells.

The base of the perforations in the Sapient

Barber 12 gas well occur at minus 2854, and that's at the base of the hachured green oil area.

The highest perfs, or the top of the perfs in the highest oil well, occur in the Barber 18Y well at an elevation of minus 2842.

So we believe that between minus 2842 and minus 2854 there is a gas-oil contact. The exact position in that range we're not certain, but somewhere in that range we think it would occur.

Likewise, we think that somewhere between minus 2911, which is the base of the perfs in the Barber 16 well, and minus 2924, which is the base of the shows in the Barber Federal Number 1 well, defines where the oil-water contact would lie.

So those are the points that I think we demonstrate on Exhibit 1.

Q. Mr. Wiley, when you prepared this exhibit what information was available to you? Did you have any seismic data that you integrated into this work?

A. No, sir, there's no seismic.

Q. Strictly well control?

A. Correct.

Q. Do you have data or have you utilized data that's been available to you that was not available, apparently, to Sapient?

A. Yes, sir, there's one very critical point. That is the structural elevation of the Barber Number 1 well, located in the -- It's point A on the cross-section that we'll see in just a minute, located in the southwest quarter of Section 7. And Conoco drilled that well approximately 1998. I'm not certain of the exact date.

But they twisted off drill pipe. They did penetrate through the Abo section and the Tubb section. They twisted off drill pipe and were unable to get open hole logs through that well, but we did get a mud log through the well, and we have a fairly good correlation that you'll see on the cross-section in a minute, which gave us a structural point to help constrain the map to the southeast, which was not available to Sapient.

Q. And so in terms of the geological interpretation you're presenting, compared to that presented by Sapient, you have an additional data point to analyze; is that correct?

A. Yes, a critical data point.

Q. And because of that data point you have restricted your interpretation of the reservoir as it extends to the south and the west in a way that was not done by Sapient?

A. Yes, I believe this will show that the structure is oriented more northwest to southeast as opposed to

north-south.

Q. When we look at your interpretation of the reservoir, do you have reservoir that should produce commercial reserves under the west half -- or the west half of the northeast of Section 7?

A. Yes, yes. If you will look at the -- again, the two possible -- the range of the possible -- what I've marked as highest oil or lowest gas, that clearly cuts into the northwest of the northeast and even into the northeast of the northwest of Section 7.

Q. Let's go to Exhibit Number 2, the cross-section. Would you take that out and then -- I guess the trace is shown on Exhibit 1, and you've then --

A. I'm sorry, could you repeat the question? I'm busy rattling.

EXAMINER STOGNER: First of all, let's get everything unfolded, and then we'll talk.

Q. (By Mr. Carr) Mr. Wiley, the trace for this exhibit, for Exhibit 2, the cross-section, is shown on Exhibit 1. Would you go to Exhibit 2 and review the information on this exhibit for the Examiner?

A. Okay. Again, the mapped datum is labeled on the lower left side as mapped datum. It's 135 feet below the top of the Tubb marker. The Tubb marker is shown as the higher connecting line. Also on the left side it's

labeled, and the right side.

You'll notice that the map horizon approximates the top of the Tubb reservoir or porosity. It's based on the top of the perfs being 135 feet below the top of the Tubb marker in the Sapient Number 12 Bertha Barber well.

Now, the top of the perfs in the other three wells that produce on the cross-section range from 131 to 155 feet below the top of the Tubb marker. So I felt that the 135 feet that the perfs were below the top of the Tubb marker in the Sapient Number 1 well was representative of the top of the reservoir or the top of the porosity.

So that's what the structure map is built on in Exhibit 1.

The next thing you'll notice is that I've colored the portions of the reservoir with the same color code as I did on the map. The solid red represents what we believe to be the gas cap, the solid green represents what we believe to be the oil leg, and the hachured red-green is the uncertain area somewhere within which we believe lies the gas-oil contact.

I've labeled across the top of each well the cumulative production as of the latest date I had data, which was June of 2000. I've also labeled the initial potential of each of the wells, and I've labeled the perforated interval of each well. I've also labeled the

gas-oil ratio of each of those wells.

So again what we think is that this cross-section shows the gas cap, it shows the evidence that we've got for the placing the contacts, where we've placed them, and I think that shows you where we got the minus 2842 for the highest oil, the minus 2854 for the lowest gas, and the 2911 for the base of the -- lowest known oil.

Q. Mr. Wiley, what conclusions can you reach from your geological study of the area?

A. Okay, going back to the map now, it's clear to us that the gas cap that we believe is present in Section 7 and producing in the Barber 12 well does not extend into the south half of the Sapient acreage, namely the east half of the east half of Section 7. We think it does clearly cover the north half of -- I'm sorry, let me say it this way: the northeast of the northwest quarter and the northwest of the northeast quarter of Section 7. In other words, Conoco leasehold.

It also extends into the northwest quarter of Section 8 and up into Section 6 and the southwest quarter of Section 5.

So clearly we believe, as some of our engineering evidence will show, we believe that that well will drain the Conoco leasehold.

Q. To date, has Conoco shared in any of the reserves

being produced by the Bertha Barber?

A. No, sir.

Q. If they do not drill another well or have the spacing unit established to include the Conoco acreage, will that acreage ultimately be drained by the Bertha Barber well?

A. Yes, we believe it will.

Q. What impact would that scenario have -- Well, let me ask you about Sapient's proposal for 80-acre spacing units. What impact would that have on Conoco's rights in the northeast of Section 7?

A. We believe that would cause us to drill unnecessarily additional wells that would accelerate the recovery, not producing new reserves but causing acceleration. But much of that testimony will follow from our engineers.

Q. Is it also true that if nonstandard units are proposed, you'll be in the same position, having to drill an additional well?

A. Yes, sir.

Q. And you'd be doing that to access reservoir, which is now capable of being produced by the Bertha Barber Number 12?

A. We believe that is the case.

Q. Were Exhibits 1 and 2 prepared by you?

A. Yes, sir.

MR. CARR: At this time, Mr. Stogner, I'd move the admission into evidence of Conoco Exhibits 1 and 2.

EXAMINER STOGNER: Any objection?

MR. KELLAHIN: No objection.

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

EXAMINER STOGNER: Exhibits 1 and 2 will be admitted into evidence.

Thank you, Mr. Carr.

Mr. Kellahin, your witness.

MR. KELLAHIN: Yes, sir. Thank you, Mr. Examiner.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Wiley, let's look at Exhibit Number -- What is this? Number 1?

A. Yes, sir.

Q. How long have you been investigating this issue concerning the Sapient well, Mr. Wiley?

A. Again looking at the Sapient well, which was originally completed to the Abo this past summer, I'm going to guess it was June.

Q. All right.

A. At that time it had produced from the Abo, and I

think I continued to look at it through when it had been recompleted into the Tubb.

Q. All right. Are you aware that Cross Timbers recompleted this in September of 1999 --

A. Yes.

Q. -- in the Tubb?

A. Yes.

Q. All right. In relation to that date, what is your first involvement with this well?

A. The summer of 2000.

Q. All right, a year later?

A. Yes, sir.

Q. Prior to that time, whose responsibility was it, geologically, to monitor the geology in the Monument area for Conoco?

A. There's a team which consists of four geologists that try to keep track of activity.

Q. Since the summer of last year, are you part of that team that monitors the activity in the Monument area for Conoco?

A. Yes, sir.

Q. Would it have been your responsibility to monitor what Cross Timbers and then Falcon Creek and now Sapient have done with the Barber Number 12 well?

A. Yes, sir, a well as many other operators in the

area.

Q. Okay. So in July 14th of last summer, when Chevron re-enters the Number 6 Matthews well in the southeast quarter of 6, that's information that would have been available to you?

A. It potentially would have been available. I was not aware of that until this fall.

Q. All right, this fall you became aware of Chevron's attempt to re-enter the Matthews 6 well, right?

A. Yes.

Q. Let's look at the structure map. The gas cap as you've outlined it is the area contained generally within the red shading?

A. The definite gas cap is in red. It may extend down through the hachured green-red.

Q. All right, we've got the Barber 12 well that is within the highest structural contour you've shown on this display and would place it in what you call the gas cap?

A. Correct.

Q. Right?

A. Yes, sir.

Q. Are there any other wells contained within that contour line that's shaded in red, that have penetrated through the Tubb?

A. Yes, all of those wells with a red datum

underneath them have penetrated through that potential gas cap.

Q. All right. Have any of these wells been actually tested to see if they will produce from what you call the Tubb gas cap?

A. Not to my knowledge.

Q. Are you not aware that on July 14th of last year --

A. Oh, excuse me --

Q. Yes, sir?

A. -- with the exception of the Chevron Matthews 6 well.

Q. All right, the Matthews 6 well, let's find it. You've got a gas well symbol that says 9920. Underneath the gas well symbol it says minus 2822, right?

A. That's correct.

Q. Have you looked to see what Chevron attempted to do when they tried to produce Tubb gas out of that wellbore?

A. Yes, sir.

Q. Do you recognize the fact that they found a tight reservoir in which they could not get any fluid entry back after their attempt?

A. Yes, sir.

Q. Are you aware that Chevron declares that to be a

tight-formation Tubb gas attempt?

A. Yes, sir, the structure map has not -- There is no implication of porosity on this structure map.

Q. All right. So if we're looking to try to find the distribution of the gas cap, how should we alter your map to take into account the fact that the well to the north of the Sapient well, the Matthews 6, can't produce gas out of this gas cap?

A. Superimposed on this map should be a porosity isopach.

Q. Where is your porosity isopach, Mr. Wiley?

A. I have not yet constructed one, sir.

Q. So you don't have a clue yet about the distribution of the potential contribution of the reservoir until you do that map, right?

A. If you will take the porosity map that was introduced by Sapient into evidence today, you will find that even taking that map at face value, there is porosity present on the Conoco acreage in the west half of the east half of Section 7 and in the southeast quarter of Section 6 of -- which would be Chevron acreage.

Q. So you're willing to accept Mr. Von Rhee's geologic presentation concerning the isopach?

A. I would say that is a possible interpretation. I myself have not independently confirmed or denied that.

Q. All right. Do you have any disagreement with the porosity cutoff values that he's used?

A. Yes, potentially I do. He used no gamma-ray cutoff to distinguish shale from nonshale. And secondly, some quick calculations we've done with Mr. Tim Denny from Chevron suggest that the ϕh in the Matthews 6 well and the ϕh in the Barber 12 well are approximately equal.

Q. All right. Did Mr. Denny show you an isopach? Has he prepared an isopach?

A. No, sir.

Q. Neither one of you fellows have prepared an isopach, have you?

A. No, sir.

Q. Let's look at this change of structural feature that you have interpreted in the southwest quarter of 5. Do you see that? Do you see where the structure wiggles around those oil wells?

A. Yes, sir.

Q. All right. Have you compared that to the interpretation of Mr. Von Rhee that that displacement and structural is accounted to by a fault?

A. That is certainly a possible interpretation, but there's no reason to conclude -- Well, let me put it this way. There is very little evidence to say what the orientation of that fault is or the length of that fault.

There's very little displacement on that fault. He shows that there's 30 feet on his map of displacement.

Q. Let me ask you this. You have taken the same data that he has with regards to that population of wells in the southwest quarter of 5, and he has a different interpretation than yours, true?

A. Yes.

Q. Within the range of your science and discipline, are either interpretations reasonable?

A. In the southwest quarter of 5 --

Q. Yes, sir.

A. -- yes.

Q. All right. Let's look at the Section 7 issue, and look at the Conoco -- Is this the Barber A7 well?

A. Barber Number 1.

Q. I'm sorry, the Barber Number 1 here.

A. Barber Federal Number 1, correct.

Q. This is the Barber Federal Number 1. This is a well that Conoco drilled in 1998.

A. It's on the cross-section A-A'. It is the mud log on the leftmost side of the cross-section.

Q. I'm with you, all right. What was the objective that Conoco had when they attempted to drill that well?

A. I don't know for certain. I know they at least went to Abo on that well. I don't know whether Abo was the

final objective or what it was.

Q. All right. Was there an objective to test and penetrate the Tubb?

A. I'm sure they were looking at all objectives above their total depth, which would include the Tubb.

Q. All right. When Conoco lost that wellbore, why didn't they redrill it?

A. I don't know the answer to that. That happened before I came into the group, so I really don't know the answer.

Q. All right. Are you suggesting by your interpretation here of the Tubb that the Division should declare this to be an associated oil and gas pool?

A. I'm sorry?

Q. Yes, sir. Your interpretation says you believe that there's a gas cap and an oil pool here; is that not what you said?

A. That's correct, yes.

Q. All right. Once you reach that conclusion, do you understand that you obligate the Division to consider adoption of associated rules for oil and gas production within a common source of supply?

A. No, sir, I'm not an expert on those rules, so I will tell you that I don't know the answer to that.

Q. Let's look at the cross-section. Would you find

the Sapient --

A. Could I make one more comment to your previous question?

Q. I can't remember what the last question was. I asked you about oil and gas associated pools.

A. Associated pools.

Q. You told me you didn't know.

A. But I will say that my understanding is, Sapient has applied for the West Tubb Gas Pool. So my understanding is, they have already asked us to be a gas pool.

Q. That's your understanding?

A. That's my understanding.

Q. Are you aware that the Division declared this a gas pool in January of the year 2000?

A. Yes, sir.

Q. When they adopted the West Monument-Tub Gas Pool?

A. Yes, sir.

Q. Are you aware that one of the options here is to develop special rules for the gas pool?

A. Yes.

Q. It's already been created, hasn't it?

A. Again, no, I -- The rules, I'm not an expert on. I don't --

Q. All right, let's talk about something you do know

about, Mr. Wiley. Let's look at the cross-section for the Cross Timbers Sapient well.

A. Okay.

Q. All right? I've got it here before me. Show me the lowest perfs in the Sapient well. Where are they?

A. They are at a depth of 6424.

Q. 6424.

A. Measured depth. They're indicated on the cross-section in the little boxes in the depth column.

Q. All right. Tell me if I'm reading this right. Over to the left of that well, in red, you have a minus 2842. It says top perfs in the Barbara 18 Y, and that is your highest known oil, right?

A. Correct, yes, sir.

Q. You relate that to the Sapient well, and its lowest perfs should be below the highest known oil contact, right?

A. I'm sorry, one more time?

Q. Yes, sir. When I look at these perfs --

A. Yes.

Q. -- and see how you have created this structural cross-section --

A. Yes.

Q. -- I should expect that the lower perfs in the Sapient well will be in the oil leg of the Tubb Pool, true?

A. No, what I'm saying is that the GOR on the Sapient well clearly indicates that this is a gas well. Therefore, the lowest known gas would be at the base of those perfs.

Q. Okay, where is the highest known oil in relation to --

A. The highest known oil occurs in the perfs of the highest oil well, which is the Barber 18 Y well, and that occurs at a measured depth of 6414, which is a subsea depth of minus 2842.

Q. All right, sir. Mr. Wiley, let me see if I can make myself clear. When we look at the Sapient well --

A. Yes, sir.

Q. -- read down the log --

A. Yes, sir.

Q. -- read to the right and you see 6429, and then in parentheses it says minus 2859, do you see that?

A. Yes, sir, I do.

Q. All right. You see the -- in parentheses, minus 2859?

A. Yeah, one of those two is probably -- wait a minute, 6429. Oh, no, I'm sorry. What that is, that is the Drinkard, that's the Drinkard top there. That's not the base of the perfs, that's the Drinkard top.

Q. I understand that.

A. Okay.

Q. And when I read over and look at the perf and then I continue over and look at your shading and coding --

A. Yes.

Q. -- do I not now have the Sapient well with lower perforations in a position where it ought to produce oil?

A. No, what I'm trying to show by the hachured green and red is that somewhere between minus 2854 and minus 2842 is where we would expect the gas-oil contact to occur. We don't know exactly where that is.

Q. All right, sir.

A. Because Sapient well makes a slight amount of oil, it may be coming out of the very basal part of those perforations.

Q. Are you calling condensate oil in the Sapient well?

A. No, not necessarily. I don't know if that's condensate or if that's oil. I just --

Q. It will make a big difference, won't it?

A. It certainly would.

Q. Okay. If this is a gas well producing condensate in association with the gas, that's going to mean it's a different critter than if it's a gas well producing oil?

A. That's correct.

Q. All right. And your presumption is, about the

gas-oil pool, can be proven or disproven based upon examining the character of production in the Sapient well to see if it, in fact, produces oil?

A. One more time?

Q. Yes, sir. Your hypothesis on whether or not this is an oil-gas well -- or I'm sorry, an oil pool with a gas cap --

A. Right.

Q. -- can be proven or disproven by examining the Sapient production on that well to determine the presence or absence of oil production, because it should produce oil in the position it is in the reservoir under your interpretation, correct?

A. No, not if the -- If the lowest position of the gas cap is at the base of those perfs, or even slightly lower, that well could produce gas, oil-free, and be in the gas cap.

Q. You understand, the Barber 12 well was fractured?

A. Yes, sir.

Q. If it is in close association with the oil leg of the pool, that should have logically communicated into the oil, right?

A. You don't know where that fracture went. Furthermore, the fracture usually grows up in preference to growing down. There's no way to know, without having run a

tracer in that well, how deep that fracture --

Q. Does it affect your judgment, opinions and conclusions if I were to tell you that the Sapient well produces less than one barrel of condensate a day?

A. No, it does not affect my conclusions.

Q. Okay. Why didn't the Chevron Matthews Number 6 well in this gas cap produce gas?

A. Well, there are many possible explanations. One might be that it is totally tight and there is no porosity. A second might be that the frac did not get into the porous zones, they were unable to -- the frac was unsuccessful. I guess those would be my two highest probable suggestions.

Q. Talk to me about the Conoco team that you're participating in since the summer of last year, Mr. Wiley. Is it your responsibility among the team to monitor what happens in offsetting wells and what they produce?

A. We attempt to do that.

Q. All right, sir.

A. You have to realize, there's 24,000 wells out here, though, that we're looking at --

Q. I understand.

A. -- so it's a big job.

Q. In January of last year, when the Division declares a new discovery of a gas well in what is formerly an oil pool area in the Tubb, didn't that come to your

attention?

A. No, sir, it did not come to my attention until the summer of 2000 when I was working on the Abo in this particular area and noticed that that well had been recompleted into the Tubb.

Q. Mr. Wiley, correlative rights is the opportunity to produce your share of the gas. When and how is Conoco going to exercise that opportunity?

A. We believe that we should have -- if normal 160-acre spacing for gas wells is applied in this situation, on this particular well, we believe we ought to receive a portion of this production, and thereby protecting our correlative rights by just establishing a standard spacing unit here.

Q. When were you going to bring that to Cross Timbers', Falcon Creek or Sapient's attention?

A. We'd been working on it since we contacted Mr. Carr approximately last summer, when it came to our attention.

Q. The color code indicates in yellow the interest that Conoco has in the area --

A. Yes, sir.

Q. -- is that what that represents?

A. Yes, sir.

MR. KELLAHIN: No further questions, Mr. Stogner.

MR. CARR: Mr. Stogner, may I follow up with one?

EXAMINER STOGNER: Yes.

REDIRECT EXAMINATION

BY MR. CARR:

Q. Mr. Wiley, Mr. Kellahin defined correlative rights as the opportunity to produce your share of the reserves. That definition also says it's the opportunity to produce your fair share without committing waste.

In your opinion, would the development of this reservoir with an additional well in the northeast quarter of Section 7, would that well be a necessary well?

A. We believe it would. As the engineering testimony that will follow, we think will show, we think that that acreage, the acreage you just referenced, can be drained through the Barber 12 well.

Q. And a second well would be unnecessary?

A. A second well would be unnecessary.

Q. And you have an engineering witness who will review that?

A. Yes, sir.

MR. CARR: That's all I have.

MR. KELLAHIN: Follow-up, Mr. Examiner.

RECROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Wiley, how are you going to get the oil if

you don't drill another well?

A. Again, we think that we are in the gas cap here, and we're not -- to get the oil, you would have to drill a 40-acre location for oil in the oil leg --

Q. All right, there's a --

A. -- not in the gas leg.

Q. There's a 40-acre location in the northeast quarter of 7 that would be in what you call the oil leg, right?

A. Forty acres for oil, but we believe this is a gas cap and that 160 acres would be appropriate, not 40.

MR. KELLAHIN: All right. No further questions, Mr. Stogner.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: (No response)

EXAMINATION

BY EXAMINER STOGNER:

Q. Does Conoco have any plans to go after the oil in the part of Section 7 that you have operations or operate?

A. I would think that would be a possibility, yes.

Q. And where would be the best place to put one?

A. For oil? The southwest quarter -- any of the 40s in the southwest -- or, let's see, we have the west half of the southwest quarter of 7, so there's two 40s there. We've got -- That would be in the oil leg.

We've got 40s on the east half of the southwest quarter; there's two 40s there, including the 40 that the Barber Number 1 is drilled in. Now, we are getting toward the oil-water contact there.

And then we could probably get a 40 in the -- or depending on what the spacing for gas turns out to be, we may be able to get a 40 in the southwest of the -- I'm sorry, southeast of the northwest, might be another oil pool. But again, it depends on the gas spacing.

Q. With such a gas cap, what happens if I pull the gas off too much or too fast? What happens to the oil?

A. You would deplete part of your reservoir energy.

Q. So how could there be controls put on the gas?

A. I'd like to defer my answer to a reservoir engineer on that, sir. But shutting it in would be one way.

Q. Possibility. Do you work with other Tubb production in Lea County, New Mexico?

A. Conoco does, yes.

Q. How about you?

A. No, not me personally.

Q. So this is the only Tubb production that you're familiar with, with Conoco?

A. That's correct.

Q. Just this one?

A. That's correct.

Q. How much oil production does Conoco have in the Monument-Tubb Pool in this area?

A. I know it's considerable, but I don't know -- I can't even give you a guess as to how much. We have a number of wells, I would say dozens of wells, that are producing from the Tubb.

Q. The Monument-Tubb?

A. Monument-Tubb, yes. Well, that -- I better say I don't know. I really don't know.

Q. I thought you said you worked with -- this is the only Tubb production you work with?

A. That's what I'm saying, I'd better say I don't know.

Q. So you don't know why it was -- Well, first of all, let me go back.

Do you know what rules the Monument-Tubb are on?

A. Yes, we did copy those. Monument-Tubb oil is 40-acre spacing, and the GOR allowed for that originally was 4000, and -- Conoco had initially applied for 6000 GOR. The Commission granted 4000 GOR. And there was an amendment, I believe, in 1994 which upped that to a 10,000 GOR. We do have a copy of that with us, but I don't have it with me here.

Q. Okay, what's oil spacing again?

A. I believe it's 40 acres.

Q. In the Monument-Tubb.

A. In the Monument-Tubb.

Q. Would you be surprised --

A. I'm sorry, you're right, it's 80 yes.

Q. It's 80. Is there any infill wells that you know about that Conoco has?

A. In the Monument-Tubb area or are we --

Q. In the Monument-Tubb area, since you don't know anything about the other --

A. Again, yeah, I better defer. I don't work in the Monument-Tubb. This is about the extent of my Monument-Tubb --

Q. Okay, what happens if you draw too much oil out of a gas cap and don't produce the gas cap? What happens to the gas?

A. The gas will expand into the oil leg.

Q. And then can the gas be recovered?

A. It will create -- yes, I believe -- Well, I would defer that to a reservoir engineer.

Q. Do you know if the special pool rules in the Monument-Tubb allow for an additional well in an 80?

A. Again, I'd have to refresh my memory, sir. I don't know.

Q. Would it surprise you if I said that nothing

contained herein shall be construed as prohibiting the drilling of a well on each of the quarter-quarter sections of the unit?

A. Again, I --

Q. Do you know who the original applicant was for the special pool rules in that pool?

A. I believe it was Conoco.

Q. Do you know, by chance, what Conoco's position was when Texaco came in to amend those pool rules to increase the GOR?

A. No, sir, I don't.

Q. Who is the operator of those oil wells in Section 5 that's on your map?

A. Marathon Oil Company.

Q. Do you know what pool those are in?

A. Yes, those are in the Monument-Tubb Pool

EXAMINER STOGNER: I have no other questions of this witness.

You may be excused.

Mr. Carr?

MR. CARR: Mr. Stogner, at this time we'd call Robert Lowe.

EXAMINER STOGNER: Mr. Kellahin, anytime you're ready.

MR. CARR: Mr. Stogner --

MR. KELLAHIN: I'm going to let Mr. Carr do this one.

EXAMINER STOGNER: Oh, I'm sorry. Mr. Carr, you may proceed.

ROBERT J. LOWE,

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 please state your full name for the record, please?

A. Yes, my name is Robert J. Lowe.

Q. And Mr. Lowe, where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. Conoco.

Q. And what is your position with Conoco?

A. I'm reservoir engineer.

Q. Have you previously testified before this Division?

A. No, I haven't.

Q. Could you summarize your educational background for Mr. Stogner?

A. I received my undergraduate degree, a BS in petroleum engineering, from the University of Wyoming.

During my career I went to graduate school at the University of Southern California, where I'm just one hour short of a master's degree.

I have worked five years in Wyoming, five years in California, three years overseas in the Middle East, United Arab Emirates, three years here in the Permian Basin, and two weeks ago I just recently joined with Conoco.

Q. So you've been with Conoco for two weeks?

A. Yes, sir.

Q. In all your prior experience you've been employed as a reservoir engineer; is that correct?

A. The first five years was pretty much production and drilling, and then from then on it's been reservoir engineering.

Q. Now, in terms of this hearing today, what were you asked to do?

A. I was asked to look to see what the potential drainage radius was of the Barber J. Bertha [*sic*] Number 12, Sapient's well, and if it could drain reserves from Conoco's, its partners' and royalty interests' acreage in the northwest-northeast corner of Section 7.

Q. And have you completed that work?

A. Yes, I have.

Q. And are you prepared to review that with Mr.

Stogner?

A. Yes, I am.

MR. CARR: Mr. Stogner, we tender Mr. Lowe as an expert witness in reservoir engineering.

EXAMINER STOGNER: Any objection?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: So qualified.

Q. (By Mr. Carr) Mr. Lowe, you've prepared exhibits for presentation today, have you not?

A. Yes, I have.

Q. Let's refer to what has been marked as Conoco Exhibit Number 3. Would you identify this and review the information on the exhibit for Mr. Stogner?

A. Certainly, it's is a production plot of oil, water and gas. And what I'll describe to you is, on the X axis, is the time line in years. The curves represented here in a solid bold with filled circles is the hydrocarbon liquid or oil. The dashed lines with stars is the gas production. And the thin line with open diamonds is the water production. I also have on here a dashed line with triangles representing the GOR of this well here.

What you see, obviously, is the completion in August of 1999, in the Tubb. We see here in December where the well was fracture-stimulated and saw significant increases in gas production. Along with that came some

water, but it quickly dropped off, as well as the oil. However, this production, coming from *Dwight's PI* and updated from the website of the OCD production through November, shows a fairly consistent decline of gas, an effective decline of 16 percent with a nominal decline of about 17.

Using this and using an economic limit of 50 MCF per day, which is fivefold higher than what was presented beforehand, shows a recoverable reserves of 2.8 BCF of gas.

Q. Let's go to what has been marked Exhibit Number 4, the plot, and I ask you to review this information.

A. Okay. I did not know what the original pressure was in this particular well, and so using some of the knowledge base of Conoco in their production in the Tubb formation, I presented three possible scenarios of what the initial pressure might be.

What we show here on this graph, at the very bottom, is the estimated ultimate recovery. On the left-hand side is a computed drainage radius.

And you'll see three lines on the graph. The blue line represents an initial pressure of 2462, and that was computed from a pressure gradient that is typically seen in the Tubb, which is 0.385 p.s.i. per foot.

I then looked at it from the standpoint of possible depletion that may have occurred. Referencing

Exhibit Number 1 here, Conoco's structure map, we see that the Marathon wells, the Bertha -- pardon me, Bertha Barber Number 18 Y in Section 5, which is Marathon's well, had been on production prior to the recompletion of Sapient's Barber Number 12. And so the yellow and red lines indicate a potential pressure depletion as a result of that production from that well on this structure.

Using -- These lines were computed based on a material balance and based for various ultimate recoveries, is how they were arrived at.

If I use the 2.8 BCF from the decline curve of Exhibit 3, you'll see a solid black line representing that estimated ultimate recovery. And where it intersects each one of these colored lines, extrapolating out what the drainage radius is associated with that.

Q. All right, let's go back to -- Take out Exhibit Number 1, the structure map, and then ask you to take out what has been marked Exhibit Number 5 and explain what Exhibit Number 5 shows as it applies to the structure map.

A. Yes, what I have here, you'll notice, looking at Exhibit Number 5, is a clear overlay. There is a green cross which represents the section lines, intersections of Sections 6, 5, 7 and 8. There is a red dot indicating the location of the Sapient Bertha Barber Number 12.

If you overlay the green section lines on top of

the map such that the red dot overlies Sapient's Barber Number 12, is how this has been scaled to the map.

The blue circle correlates to the blue line on the Exhibit Number 4, and it is illustrating the drainage radius for a 2.8 BCF, for an initial pressure of 2462.

If there had been some pressure depletion associated with the Marathon well, Barber 18 Y in Section 5, say, to 1900 p.s.i., then illustrated in red would be the drainage radius in order to achieve 2.8 BCF.

From looking at the historical decline plot, there was no indication of any kind of restriction or confinement indicating barriers that would not prohibit you from thinking that it would be a radial drainage.

Q. If we look at this and take any of the scenarios, the drainage radius extends into the Conoco acreage in the west half of the northeast quarter of 7, does it not?

A. Yes, it does.

Q. In your opinion, would an additional well be necessary over in that acreage to recover the reserves that can be produced from this reservoir under that acreage?

A. No, sir, it would be just an additional well, just to accelerate the recovery.

Q. Have you looked at what would be the impact of the 80-acre development in this area?

A. Yes, I have.

Q. And have you prepared an exhibit which shows that?

A. Yes, I have.

Q. Is that what has been marked as Conoco Exhibit Number 6?

A. Yes, it is.

Q. Would you refer to that and explain what it shows?

A. Okay, once again this is a clear overlay with the green lines indicating the section lines, with a red dot locating the Sapient well. And in a similar fashion, if you place the green lines over the section-line intersections and the red dot over the Sapient well, what we're showing here is potential wells on 80-acre spacing.

This was -- What I'll point out here, directly north of the Sapient well, I had no idea where the Matthews Number 12 was, so I just simply placed it based on my understanding of 330, going directly off of there.

But what it is implying here is the fact that if we go on 80-acre sections, Marathon will be -- in order to protect the correlative rights of itself, its partners and the royalty interests there, would have to drill a well in the northwest of the northeast corner. Likewise, in Chevron's interest and its working/royalty interests' concerns, they would probably need to offset a well

directly across.

In Section 5, more than likely with the activity, Marathon would probably want to protect its correlative rights by drilling an offset, a nonstandard offset, in Section 5. And not knowing the condition here of this -- on this map that's labeled as Barber AD 1 -- I believe that's a Sapient well -- I'm not sure whether it's shut in or what the case of the wellbore integrity is, but if it's not good, then they would be required to drill another well, as indicated by the small circle there.

What we see is a large amount of overlap, indicating the fact that there would be a competition or interference here, an acceleration of the reserves, that a good portion of these reserves could be accumulated by just pretty much a couple existing wells of Chevron and Sapient.

Q. In your opinion, would adoption of 80-acre spacing result in a development pattern that would be excessive for this reservoir?

A. Yes, I do.

Q. What are your recommendations concerning Sapient's Application?

A. That there be a standard square 160-acre spacing and that the petition for the nonstandard be rejected.

Q. In your opinion, if that occurred, there would have to be some sort of a make-up of the production, would

there not?

A. Yes, that's right.

Q. And how would you recommend that that be handled?

A. I think Conoco and its partners and interests, royalty interests, would want to be flexible. It would be perhaps from a point forward, perhaps with the gas-balancing process at that point in time. We would not be expected to be paid in cash or check.

Q. Mr. Lowe, were Exhibits 3 through 6 prepared by you?

A. Yes, they were.

MR. CARR: Mr. Stogner, at this time we move the admission into evidence of Conoco Exhibits 3 through 6.

EXAMINER STOGNER: Exhibits 3 through 6 will be admitted into evidence.

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

EXAMINER STOGNER: Mr. Kellahin, your witness.

MR. KELLAHIN: Thank you, Mr. Stogner.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Lowe, let's go back to your Exhibit Number 3. You've constructed a production decline curve --

A. Yes, sir.

Q. -- give you an estimated ultimate recovery for

the well, and by your analysis you get an EUR of about 2.8 BCF?

A. That's correct.

Q. All right, let's look at the analysis. I'm looking at your data point. The first data point on production is -- and I'm looking at the decline-curve line you drew for the production line on the gas. Just to the right of the box is a star, and that's the first data point on production. It's right after the frac treatment.

A. Okay.

Q. All right, you see that?

A. Uh-huh.

Q. Then there's the second data point, third data point, and there's a dashed line where the data drops substantially.

A. Uh-huh.

Q. In your review of the records, what accounts for that fourth star to be so far off of the curve? What happened?

A. I can't tell you. But I can tell you that the star should not represent -- This is monthly data.

Q. Okay.

A. Okay, so stars are not illustrating the actual data points; there's more data in between --

Q. I understand.

A. -- the data points there, and --

Q. Have you tried to -- I'm sorry, go ahead and answer the question.

A. As with respect to that fourth star that you're referring to, the data after that went to zero. As to what the problem was, if there was a problem with the well or why it was shut in, I have no idea.

Q. All right. It would be at least an indication that the well did not produce for that fourth month?

A. That's correct.

Q. All right. Then the fifth month, it is restored to production for whatever reason, and now we have --

A. Or the fifth star --

Q. The fifth start is the next data point?

A. -- which would be in October.

Q. Right.

A. Yeah.

Q. Okay.

A. Of 2000.

Q. I know you've only been working for Conoco for a couple of weeks in this area for this project. Do you have experience in your background with Tubb gas production?

A. No, sir, I don't. However, in reviewing this I did speak with individual reservoir engineers who had 20 years' experience in the Tubb.

Q. All right. Let me ask you about your knowledge concerning what happens with the data point number 5, that fifth month.

A. Are you talking about October, 2000?

Q. Yes, sir, October, 2000.

A. Okay.

Q. When we take October of 2000, can that data point be affected by how the well is performed in that month?

A. I'm sorry, could you restate that?

Q. Yes, sir. The data point is simply the reflection of what is recorded to be the cumulative gas produced for the month of October.

A. That is correct.

Q. And that volume of gas produced in October of last year can be affected by how the well is operated and produced --

A. Yes.

Q. -- right?

A. And so is a similar point on November.

Q. Yes, sir, they're all the same way.

A. Yes, sir.

Q. So if that monthly production from October is uncharacteristically high for whatever reason, you have a data point that could be too high on which to place a production line?

A. It could be. But then again, we see that we have an established decline from what appears to be January, February, March, April, May, June, July points.

Q. Do you know whether or not it's characteristic in the Tubb to have a hyperbolic curve associated with that production where it will change from this straight-line decline that you have depicted here?

A. If you had a hyperbolic decline -- I used an exponential decline, which is the most conservative estimate. If you were to use a hyperbolic decline, it would actually add more reserves than what I am suggesting.

Q. Okay, I'm trying to understand the range of choice that you have concerning the 16-percent annual rate of decline. And so the data you've used is what we're describing here as monthly production?

A. Yes, sir.

Q. Okay. In looking at the production, did you attempt to analyze and determine whether or not the well was producing oil or whether that fluid production was simply condensate being produced in association with the gas?

A. No, sir, I didn't. My review of how it was reported on the OCD was as oil.

Q. All right. And so the assumption --

A. I should say on the web page.

Q. I understand. So you haven't looked at data to determine whether or not it was oil or condensate; you simply assume because of the way it was reported that that was oil production?

A. Yes, sir.

Q. All right, let's -- The drainage radius surface are based upon taking your assumption of estimated ultimate recovery and backing into a radius using an engineering calculation?

A. It also assumes some other Tubb parameters that I acquired, as I mentioned, from some of these experienced Tubb engineers.

Q. That's what I want from you. Would you list for me the assumptions that you made in order to do the drainage calculations?

A. Certainly. Based on our understanding that there was 21 feet perforated in the Sapient Barber B Number 12 --

Q. All right, let's stop right there. For your calculation, you used 21 feet?

A. No, sir, I'm just --

Q. All right. For the assumption on the radius of drainage --

A. Yes.

Q. -- you have used a net thickness of 21 feet?

A. I use a net thickness of 25.

Q. Twenty-five feet, okay. All right, now come back and tell me how you got to the 25.

A. Actually, I had my geologist, Mr. Bruce Wiley, who just previously testified here, provide that for me.

Q. Okay. We have a difference between the two geologic experts. Mr. Von Rhee used 30 feet when he gave it to his engineer, and Mr. Wiley has given you 25 feet?

A. That's correct.

Q. Okay. If we use 25 feet, the calculation will spread out the drainage so it's a longer radius?

A. Likewise, if you use a larger number it will reduce it.

Q. All right, sir.

A. Right.

Q. All right, so I've got that value. What other values did you assume?

A. Typically what we see in the Tubb, water saturation is 23 percent. I used an average porosity of 12 percent, fairly close to what was beforehand.

Q. Yes, sir.

A. I used a specific gas gravity of .67.

Q. Okay.

A. And I used a correlation to compute the Z factor --

Q. Uh-huh.

A. -- which is based on the Benedict-Webb-Rubin equation of state.

Q. And what was your Z factor?

A. It was 0.77.

Q. All right, and --

A. Zero point seven --

Q. -- Mr. Travis used 0.79, I think?

A. Yeah.

Q. Will a choice on the Z-factor component change materially between .77 and .79?

A. I'm sorry, once again?

Q. Yeah, does the difference between you and Mr. Travis, if all other things are the same, if you use a different Z factor that's .77 versus .79, does that matter anywhere?

A. No, not that significantly, if you're using the same pressures, initial pressures.

Q. All right, let's go back and have you tell me what you used for your initial pressure.

A. As I was saying, it was 2462. That was based on the pressure gradient that we have seen in the Tubb of 0.385.

Q. Did you use an abandonment pressure in your calculation?

A. Yes, I did.

Q. And what was that?

A. 250 p.s.i., that's bottomhole pressure.

Q. Any other assumptions in the calculation that you made?

A. No, sir.

Q. I think that's all the ones I remember that go into the equation.

A. Yeah.

Q. All right. And then what you did is, you made the overlay with the various circles. And in order to fit this on Mr. Wiley's map, I have to take the green north-south-east-west intersection --

A. That's correct.

Q. -- and place that point at the intersection of the four sections that are on his map?

A. That's correct.

Q. And then I'll have correctly oriented that.

A. And you'll see a red dot identifying the Sapient well, which would overlay the one identified on the map.

Q. Okay. Have you gotten to the point in your work, Mr. Lowe, that you have reached any engineering judgments about whether or not this is an oil pool with a gas cap or not?

A. We have -- if you -- if we -- According to this map, the fact that Marathon is producing from the same

structures as interpreted here, we see an increasing GOR over time.

Q. In the Marathon well?

A. In the Marathon well, yes, as well as in the Barber B.

Q. All right. That can be explained by other circumstances, can it not? In other words, you can have increasing gas-oil ratios in an oil pool, compared to a gas pool, and not have the two connected?

A. You could, except for the fact that if you have an oil well whose GOR is increasing since the time the gas well has been brought on, it would suggest that there is some pressure depletion. Perhaps the gas cap is moving down into the well.

Q. Is there any other oil well in the area, other than this one Marathon well, that displays that increase in gas-oil ratio?

A. That one Marathon well being the Barber 18 Y?

Q. Yes, sir, yeah. Is that the only one?

A. You're starting to see a slight increase in the Barber B16, but not as significant as the Barber B18 Y.

Q. Have you looked at the other wells in the Monument-Tubb Oil Pool to see what those wells are doing, one to another, in terms of the gas-oil ratio.

A. This Monument-Tubb Pool you're talking about that

is down to the --

Q. Yeah, the oil pool.

A. The oil pool, no, I haven't. I do understand, though, that they do have a lower GOR than what is being seen at the 18 Y. The 18 Y is getting up around 10,000.

Q. And the rules permit that to --

A. That's correct.

Q. -- occur? And those wells, Marathon wells, are currently classified in the Monument-Tubb Oil Pool?

A. That's correct.

Q. Okay. Conoco operate any wells in this area?

A. Once again, I'm afraid I --

Q. You don't know?

A. I'm not that familiar.

Q. All right, sir. Do you know if Conoco has the opportunity to take any of the wells in the west half of the east half and deepen them to the Tubb?

A. Not to my understanding. We would have to drill --

Q. All right, sir.

A. -- a brand-new well.

MR. KELLAHIN: No further questions. Thank you, Mr. Stogner.

EXAMINER STOGNER: Mr. Carr, any redirect?

MR. CARR: No redirect.

EXAMINATION

BY EXAMINER STOGNER:

Q. Let's see, if I understand what you're talking -- If I understand right, you've mentioned something about forming a standard 160-acre comprising the northeast quarter. And how would that -- Would it be a penalty, or you said that Conoco would --

A. No, sir.

Q. -- accept the production and allocation how?

A. Just from the gas balancing, such that, you know, a percentage of whatever the allotted amount we identified that would be reserves in our acreage that we feel that may have been affected as of -- through the production to date, would be over time added as we would then go through the payment or gas balancing, until such time everything was made up, and then we'd go with a straight heads-up agreement.

We're not asking for, I don't think, a cash settlement or anything retroactive prior to day one. We feel that we would -- We try to work with Sapient here on working out a mutual benefit deal, benefit from the standpoint that they wouldn't have to pay everything up front, but it would be over time.

Q. Do you have that formula?

A. No, sir.

Q. And that's because it's a gas well, right?

A. The gas-balancing, yes, sir.

Q. With that in mind, why doesn't Conoco have a problem with the Matthews well?

A. Well, I'm certainly not an expert on pool rules or anything of that sort, but I don't think we would necessarily have a recourse with their well on Number 6. They're in a different section.

Q. Well, isn't their well closer to your property than this well, the Sapient well?

A. It is, but has not affected our area at this point in time.

Q. But will it, according to what you suggested?

A. There will be, obviously, a boundary effect between the two wells in which the Matthews Number 12 will not be able to drain because of the flow profiles that -- or the flow streams that are already established by the production of having the Barber Number 12 already on production.

Q. Now, you said this is the only Tubb production that you're affiliated with; is that correct?

A. At this time, sir.

Q. Have you been affiliated with any other type of reservoirs that had gas caps, as you're indicating here?

A. Yes, sir.

Q. Okay, what kind of restrictions can be put on -- or should be put on the gas production to control the -- how would you say it -- the uncontrolled take of gas in a gas cap for an associated-type pool?

A. You would want to have a minimal amount of withdrawals. Simply, it was described beforehand that you will lose the mobility or the energy within the oil. One of the primary mechanisms for producing the oil would be through fluid expansion, as well as gas-cap expansion.

Q. Wouldn't that be prudent, then, in this instance?

A. Yes, we believe so.

Q. How come Conoco didn't request special pool rules or associated pool rules in conjunction with the Monument-Tubb?

A. I'll be honest with you, I don't know at this point in time. I don't know if they have decided on that or --

Q. Who would? Who would have that decision mode in Conoco?

A. That would be discussed within our group.

Q. Usually in other pools that you've dealt with, how has that control or mechanism been established and associated with oil production from the lower portion of this pool, or a pool such as this?

A. Well, I should tell you too that the wells or the

reservoirs that I've worked on with gas caps, the companies had fully owned the entire working interest and acreage within the structure.

Q. Oh, even better, then. So how, then, in this instance, had this occurred, was this a prudent -- Because this was all engineering, essentially, right?

A. Yes, sir.

Q. So what kind of formula was utilized?

A. Whatever maximized the recovery.

Q. And how was that determined?

A. Through material-balance calculations.

Q. So in those kind of pools, was oil production also limited or controlled?

A. No, sir.

Q. So oil production was pull out as much as you can; it was only the gas cap that was --

A. Yes, sir.

Q. -- controlled?

Q. Was the spacing or the amount of oil wells, was that limited or did you just drill as many oil wells as you could, no matter what it was?

A. This gas cap was in California, and there was 10-acre spacing.

Q. Okay.

A. They were also under a waterflood.

Q. Now, you said it was all 100-percent, so it doesn't really matter what California's spacing rules were, because you essentially were allowed to drill as engineering saw fit; is that correct?

A. It was -- Actually, the spacing was deemed because -- in order not to accelerate reserves but because of the nature of the geology, that's what was required in order to acquire the production. If it was the case that we would have been able to acquire the production with larger acre spacing, then we would have had fewer wells.

Q. So you kind of got stuck with the situation before Conoco --

A. Geology --

Q. -- before you got involved?

A. Yeah.

Q. Kind of like this, huh?

A. Yeah.

EXAMINER STOGNER: Okay. I have no other questions of this witness.

MR. KELLAHIN: May I follow up on one question that you had, Mr. Examiner?

EXAMINER STOGNER: Sure, please.

FURTHER EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Lowe, let's take the overlay.

A. Which overlay?

Q. With the circle, not the multiple circles. The single-circle overlay is Exhibit 5. Mr. Lowe, if you'll put it on the position on the map, I want to follow up on Mr. Stogner's question. This inferred radial drainage assumes the Matthew 12 is not yet competing, correct?

A. That is correct.

Q. All right. It assumes that this geologic interpretation is correct?

A. Yes, sir.

Q. It assumes a uniform thickness within the radius of the 25 feet?

A. Actually, it's much more conservative as you go out towards 18, or it appears that there may be a thinning trend, as I understand from the geologist, going from 18 to 12. Using the 25 feet would give it -- does not honor that thinning process. If I tried to honor the thinning process, it would extend the drainage radius even further than what I show.

Q. When the Matthews 12 well is completed to the Tubb, and if it's successful, Mr. Stogner was asking about the barrier or, if you will, the no-flow boundary --

A. Uh-huh.

Q. -- that's established between the two wells.

A. Uh-huh.

Q. Where would that occur?

A. It would occur between the Matthews 12 and the Barber -- and the Sapient's Barber Number 12.

Q. Okay. Assuming the reservoir is uniform --

A. Uh-huh.

Q. -- with the same permeability and porosity, the no-flow boundary should be equidistant between the two wells, right?

A. Over time, but not immediately. In fact, initially you probably establish the no-flow boundary probably a little bit initially closer to 12, then eventually it would probably move towards the median.

Q. Okay.

Q. At that point of no flow, and as you move northeast and southwest of that point of competition in the reservoir, what happens to the shape of that line or curve as the two wells compete?

A. This is -- If you're assuming a homogeneous system as you're talking about throughout --

Q. Yes, sir.

A. -- any production, any radial drainage that would have occurred in Section -- northeast of Matthews 12 would probably then probably extend out further to the southeast in Section 8 and into Section 5, Marathon's area.

Q. All right. If this is homogeneous uniform, can I

presume that I would have a circle that now is divided in half in the diameter of that circle?

A. No, sir, you wouldn't have that half circle, you would --

Q. All right, what's the shape, then, looking up the drainage area?

A. Well, it would probably be elongated, as I mentioned, down into Section 8 and over into Section 5.

Q. Okay. What happens to the oil production that's in the south half of the northeast quarter under this drainage radius example?

A. What happens to the oil?

Q. Yeah, how are we going to produce the oil that is south of the radius in the northeast quarter of 7? How do we get that? Do you have to drill an oil well?

A. Yes, sir, you're talking -- If I understand you correctly, you're talking about the acreage of Sapient in the -- Is this the southeast corner of Section 7?

Q. Let me repeat this. I'm taking the northeast quarter of 7 --

A. Northeast --

Q. -- and on the structure map I have drawn a square that will encompass the northeast quarter, and --

A. Okay, so 160 spacing.

Q. 160 spacing.

A. Okay.

Q. All right? And I've found the area affected by your drainage radius circle --

A. Uh-huh.

Q. And there's a portion in the south half of the northeast that is not being drained by the Sapient well?

A. Yes, sir.

Q. You're down in the oil portion, as I understand this analysis?

A. Yes.

Q. How are we going to get the oil?

A. You would have to drill an oil well.

Q. Okay. Is there anything in the current rules that preclude that oil well from being drilled now?

A. I'm afraid I'm not that familiar with respect to rules and prorations.

MR. KELLAHIN: No further questions.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: No questions.

EXAMINER STOGNER: Okay, we'll reconvene here at ten after two.

(Thereupon, a recess was taken at 1:10 p.m.)

(The following proceedings had at 2:10 p.m.)

EXAMINER STOGNER: Okay, hearing will come to order.

Mr. Carr, I believe we're still with you.

MR. CARR: May it please the Examiner, at this time we would like to move to the Chevron presentation and call Tim Denny.

EXAMINER STOGNER: Ready, Mr. Carr?

MR. CARR: Yes, sir.

TIM DENNY,

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 full name for the record?

A. Tim Denny.

Q. Spell your last name.

A. D-e-n-n-y.

Q. Where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. Chevron.

Q. Mr. Denny, what is your position with Chevron?

A. Geologist.

Q. Have you previously testified before this Division?

A. No, sir.

Q. Could you review your educational background and

then summarize your work experience for Mr. Stogner?

A. I have a BS degree and an MS degree in geology from the University of Nebraska, and I've worked for Chevron for 21 years.

Q. Are you familiar with what Sapient is seeking in these cases?

A. Yes, sir.

Q. Have you made a geological study of the area which is the subject of these cases?

A. Yes.

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

A. Yes.

MR. CARR: We tender Mr. Wiley as an expert in petroleum geology.

EXAMINER STOGNER: Are there any objections?

THE WITNESS: Mr. Denny.

MR. KELLAHIN: You said Mr. Wiley.

MR. CARR: I tender Mr. Denny, this witness, as an expert in petroleum geology.

MR. KELLAHIN: No objection.

EXAMINER STOGNER: Mr. Denny is so qualified.

Q. (By Mr. Carr) Mr. Denny, could you initially review for us what are the status of Chevron's efforts to develop the 160-acre tract north of the Bertha Barber

Number 12 well?

A. We are currently waiting for a rig to move in on the Matthews Number 12 well.

Q. And that is the well that was approved by an administrative order of this Division?

A. That's right.

Q. Have you prepared certain exhibits for presentation in this case today?

A. Yes.

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

A. Exhibit Number 1 is a structure map that I've constructed on top of the Tubb formation. And this map was generated basically -- I just use a program that -- went out and looked at tops from PI, and the map that I got is pretty much what I have here. And I went and verified some of the tops to make sure they were in line with what I thought they were on my structure -- cross-section.

The top-of-the-Tubb map, it may be a little different than what's been previously shown by Mr. Wiley. His map is constructed at a level below the top of the Tubb, and my map is actually on top of the Tubb. And the oil and gas contacts were adjusted up to essentially the top of the reservoir, which I considered to be the top perf

in the Sapient well. So I moved my contacts up 123 feet.

And what this structure map shows is -- appears to be a closed structure. You have a small syncline on the southeast portion of the map, and you have another small syncline on the northwest portion of the map, and it appears to be structurally controlled. And there appears to be a gas cap that has one well producing in it, the Sapient Number 12 well. And there are three oil wells on the right-hand side, the Marathon 18 Y and 16 and 17, Marathon wells.

Chevron has 100 percent in Section 6, 100-percent working interest in Section 6 in the southeast quarter, and then in Section 7 where we have the west half of the northeast quarter, and also in the east half of the northwest quarter, Chevron has an 18.7-percent working interest and an NRI in that lease of 14.967.

Q. And this exhibit shows that there is productive reservoir under the west half of the northeast quarter of Section 7; is that correct?

A. Yes.

Q. Let's go to Exhibit Number 2, your cross-section. Would you review that for the Examiner?

A. This cross-section, if you look at the structure map, the blue line is what we'll be looking at. The blue line represents the line of cross-section.

And on the left side of the cross-section is the Gulf Matthews Number 6 well, and then it goes down to the Sapient, the Barber Number 12, and then the Marathon 18 and the 16 and then the 17.

And the Number 6 well, the Gulf Number 6 well, Matthews Number 6, this log you're looking at is a log that we went out into the well back in November of 1999, we logged this well because we were aware of Sapient's production in the Number 12 well, so we went out and logged this Number 6 to see if we could see some porosity in this well.

And we did that, and then we filed for a permit in April and we got approval in May, and we went to work in July of 2000.

And what this shows is, if you look up at the top here, there's a blue marker called the Tubb, and that TD doesn't mean anything other than my initials. Okay. But that's the top of the Tubb.

And then down towards the bottom there's another blue marker, which is the top of the Drinkard. I've made quite a few more detailed correlations within the Tubb section itself.

We feel like the Matthews Number 6 well was completed in essentially the same intervals, although there's one interval that we did not perforate that was in

the Sapient well. But overall, we think that we were perforated in more or less the same section.

We had some fair porosity development in the Matthews well, and we to this day do not understand why we were unable to make a well.

But the other thing that's shown on here are these different lines, the highest oil and the lowest gas, and then also the lowest known oil. And all I did here was basically confirm what the Conoco geologist had done, Mr. Wiley, and I thought that it was a reasonable estimate of where these contacts might possibly be. It's not to in any way insinuate that these are the exact contacts, but these are, based on perforations, our best guess as to where they might be.

And the lowest gas, again, was basically the lowest perf in the Sapient well. And the highest oil that was shown was the highest perf in the 18, and the lowest perforation was in the Marathon Number 16.

And as you can see down at the bottom of the cross-section, the Sapient well IP'd for 610 MCF, the Marathon 18 Y produced 68 oil and some water, and -- 104 water. And the 16, Marathon 16, was 41 oil. Had some gas, 81 MCF, with a couple barrels of water. And the Marathon 17 had 104 oil, 278 gas and zero water.

So I guess it just shows that the Sapient well

was all -- IP'd for all gas, where the other wells were oil and some gas.

So I just wanted to make sure people understood these contacts are just our best guess, and they're not necessarily anything hard wired, because we just do the best with the data that we're provided.

Q. Mr. Denny, what conclusions can you reach from this geological review of the area?

A. Our analysis suggests that you have a closed structure and that you have a gas cap in the northern portion of Section 7, and we feel that a standard 160-acre proration unit would be the way to develop that quarter section.

Q. In your opinion, will the Bertha Barber Number 12 well produce the Tubb reserves under that quarter section?

A. Under the northeast of 7?

Q. Northeast of Section 7.

A. Well, probably not because -- or not for some long time. There may be interference, eventually, when we get two wells in there, but --

Q. I'm talking about the Bertha Barber Number 12 in the --

A. Oh --

Q. -- northeast of 12.

A. -- oh, yes --

Q. Will that well produce the reserves under --

A. I'm sorry, I was thinking the Gulf well. Yes, the Sapient Number 12 will produce gas out of the northeast quarter of 7.

Q. And Chevron owns interest in that spacing unit; is that right?

A. Yes, sir.

Q. Have you shared in that production to date?

A. No.

Q. And what are you seeking?

A. Well, we seek a standard 160-acre proration unit.

Q. And do you believe that the spacing unit should be set up and that the sharing should be effective back to first production from the well on the Tubb?

A. Yes.

Q. The nonstandard units are being proposed by Sapient. If they are approved, the east half, east half and west half, west half, what impact would that have on Chevron?

A. It would require additional drilling in Section 7 and also in Section 6, and we feel like the area can be drained effectively with fewer wells and it would cause waste as far as additional drilling goes.

Q. Will Chevron call an engineering witness to review the drainage aspects of this issue?

A. Yes, sir.

Q. Does Chevron request that the Sapient well be shut in until an approved spacing unit has been established for it?

A. Yes.

Q. Were Exhibits 1 and 2 prepared by you?

A. Yes.

MR. CARR: At this time, Mr. Stogner, we move the admission into evidence of Chevron Exhibits 1 and 2.

EXAMINER STOGNER: Exhibits 1 and 2 will be admitted into evidence.

MR. CARR: And that concludes my direct examination of Mr. Denny.

EXAMINER STOGNER: Thank you, sir.

Mr. Kellahin, your witness.

MR. KELLAHIN: Thank you sir.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Denny, how long have you been employed as a geologist for Chevron?

A. Twenty-one years.

Q. Of that period of time, have you been involved with looking at the geology in Lea County, New Mexico?

A. Off and on at different times.

Q. All right. Prior to September of 1999, were you

one of the geologists responsible for the Monument area in Lea County, New Mexico?

A. A portion of the Monument. When you say Monument, there's different reservoirs in the Monument.

Q. I understand. I'm talking about the area around what is now West Monument-Tubb Gas Pool, east half of Section 7.

A. My involvement in this area came from -- I was working on the Monument-Abo area.

Q. Yes, sir.

A. And because I'd worked with that and it was proximal to this, then I happened to be looking at this area. But that's about the extent of my Tubb knowledge.

Q. Were you one of the technical individuals that reviewed the Cross Timbers discovery well, the Barber 12 well?

A. Yes, sir.

Q. And when did you first do that, sir?

A. The best I can recall is, I saw the information on PI that they were drilling a well, and then in the PI reports, the drilling reports.

Q. Oh, so then you would have been aware of their activity back in September of 1999?

A. That's probably correct.

Q. Okay.

A. I don't look at the PI reports every week or every -- on a regular basis. But sometime in September, October, I would guess.

Q. All right. So there's a system in place in Chevron in which you are a participant and have the opportunity, and the responsibility, to look to see what's happening in this particular area?

A. Yes.

Q. All right. And in September of 1999, you become aware that Cross Timbers is taking the old oil well and deepening it into the Tubb, and that you later learned that it produced gas out of the Tubb, correct?

A. That's right.

Q. All right. Did you become aware of the fact that the Division established in January of the year 2000 a new pool for that well?

A. January, 2000, yes, I think I was informed at that time.

Q. All right. Are you familiar enough with the spacing requirements for that portion --

A. Oh, let me --

Q. Yeah.

A. -- let me think, 2000 ---

Q. Yeah, last year.

A. -- I don't think I realized that this was a new

pool -- a new field rule until about October of 2000.

Q. All right, let me go back and clarify something. You told me you were working on the Barber Number 6 well --

A. Right.

Q. -- and I thought you told me that was in the spring of the year 2000. Would you check again and tell me what your best recollection is concerning the Barbara 6 well?

A. The Barber 6 --

Q. I'm sorry, I can't keep them straight. The Matthews 6.

A. I have trouble too.

Q. The Chevron Matthews 6.

A. The Matthews 6 well.

Q. Yes, sir.

A. Okay, the chronology there was, we were aware that there was an IP, Sapient IP'd their well for 610 MCF, and that was in September or October of 1999.

Q. All right, sir.

A. And then we went out and logged -- because of their success, we went out and logged our Matthews Number 6 well.

Q. Okay, now stop right there. Now, when did that happen? Tell me again.

A. The logging date on that was November 24th of

1999.

Q. All right. So we've got the Cross Timber well in September. Two months later in November, you're back logging the Matthew 6?

A. Correct.

Q. All right. Are you familiar with the general statewide spacing rule for oil wells on 40-acre spacing?

A. Am I familiar with it, I --

Q. Yeah, do you know that that's the rule?

A. I asked the engineer as far as what the Monument-Tubb spacing was, and he told me 40 acres.

Q. He told you 40 acres?

A. That's what I recall.

Q. All right. If it's 40-acre spacing, do you know what a standard well would be 330 from the side boundaries of the 40-acre spacing unit?

A. Yes.

Q. That's not unusual to be aware of that?

A. That's right.

Q. Okay. Regardless of the actual spacing for the oil pool, area you aware that it's typical for the Division, under the statewide rules, to have a gas well on 160 acres?

A. Yes.

Q. And are you aware that it is within the rule that

that well should be no closer than 660 to the side boundaries of the 160? You know that, right?

A. Right.

Q. Okay. Did it occur to you that the Cross-Timbers well, which was an oil well 330 from your property, is now a gas well, and therefore too close?

A. We checked into that and we tried to find out what the field rules were for that, and it was classified as wildcat for a long time.

Q. And what would that mean to you?

A. That means no field fields rules are established, as far as I know.

Q. So then it defaulted to the statewide rule, right? You don't know?

A. I guess not.

Q. Okay.

A. I hadn't thought of it like that, I guess.

Q. All right, let me show you something. Mr. Denny, I've handed you an exhibit. It's marked Exhibit 20, it's Sapient Exhibit 20, and the first page of it is on Chevron letterhead, and it's dated October 11th, year 2000. And if you'll turn past the first page, you'll see that this letter is authored by Lloyd Trautman of Chevron and that you were copied?

A. Uh-huh.

Q. T.R. Denny is you; is that no so?

A. That's right.

Q. All right. Do you know about this Application of October 11th, year 2000, for the unorthodox location for the Matthews 12 well?

A. Matthews 12, yes.

Q. Yes, sir. Mr. Trautman is copying you, right?

A. Right.

Q. Where's Mr. Trautman?

A. He no longer works in this particular group.

Q. All right, is he still employed by Chevron?

A. Yes.

Q. Is he still located in Midland?

A. Yes.

Q. Okay. On October 11th, then, Mr. Trautman, by copying you, is requesting to use the Number 12 well as a well at an unorthodox location in the southeast quarter of 7, correct?

A. That's right.

Q. All right. At this point he is referencing the Cross Timbers Bertha 12 well, correct?

A. Uh-huh.

Q. Did you know at this time that well was operated by Sapient and not Cross Timbers?

A. No.

Q. Why is Mr. Trautman copying you with this Application, Mr. Denny?

A. Just standard procedure, I guess. You know, when they do something, the engineers do something, they usually send us a copy.

Q. All right. Are you involved in deciding which of the wellbores in the southeast quarter of 7 -- I'm sorry, the southeast quarter of 6, that Chevron is going to utilize for this attempt to deepen into the Tubb gas?

A. Yes.

Q. All right, so that would be a good reason to copy you, right?

A. Yes.

Q. All right. Let's turn to the next page, and it's a plat that was filed with Chevron's Application, and it shows the Number 12, correct?

A. Okay.

Q. Do you see that? It's got an arrow on it, the Number 12?

A. Right.

Q. And you see north of that is the Number 6 well?

A. Right.

Q. Do you know the significance of the area that is shaded with diagonal hach lines on this exhibit, of this display? Do you know why that was done?

A. No.

Q. Turn to the next page with me. You'll see Mr. Trautman sent notice to the offset operators. Do you see that?

A. Yes.

Q. Do you know why he sent notice to Cross Timbers?

A. As I said, I don't think we knew it was Sapient's well then.

Q. Okay.

A. So that's -- I don't know.

Q. Do you know why notice was not sent to Conoco?

A. No, sir, I don't get involved in this kind of work much.

Q. All right, sir, let's turn to the next page. There's a C-102 attached to the Application. It shows the location for the Matthews Number 12 well, correct?

A. Yes.

Q. All right, turn to the next page. It's a letter from Mr. Stogner to Mr. Trautman dated October 26th, year 2000, and Mr. Stogner is asking for more information concerning the wells in the southeast quarter?

A. Right.

Q. Have you seen this before?

A. Yes.

Q. Okay, let's turn to the next one. It's Mr.

Trautman's response on November 7th, the year 2000, to Mr. Stogner's letter, correct?

A. Right.

Q. Did you participate in the preparation of this letter or any of the information that went from this submittal to Mr. Stogner?

A. No, I just read over it and that was it.

Q. Okay. Let's look at some of the things Mr. Trautman is saying. If you'll look at the second paragraph he says, "At this time we decided to recomplete the Number 6 well." Do you see that?

A. Yes.

Q. "Permits were obtained and.." we completed the work on July 14th, year 2000, right?

A. Yes.

Q. So this is in response to knowing that Cross Timbers has a Tubb gas well, and you're looking at your wells in the southeast quarter for a re-entry, right?

A. Right.

Q. You know that the Cross Timbers well is 330 from the common line, right?

A. Uh-huh.

Q. In July of the year 2000, why did you not select the Number 12 well, which is the immediate offset for competition --

A. Yeah.

Q. -- and instead select the Number 6 well?

A. Well, the reason that we did that was because we're under constant pressure to keep our costs down, and the Number 6 well was a well that we had casing in. All we had to do was run a porosity log to high-grade our porosity interval and put some perforations in it, and it was the most economical way for us to get in and test the Tubb in that area.

Q. But if you're worried about the offset drainage to the south by the Cross Timbers Tubb gas well --

A. I understand.

Q. -- why wouldn't you spend the additional moneys for the protection well, which would be the Number 12?

A. Well, like I say, we just -- with the management approach, as I said, they like to do things that it's most economical. And we thought if the 6 was productive then we could maybe do subsequent work.

Q. Were you proposing to have two Tubb gas wells in the same southeast quarter of Section 6?

A. No, I'm just saying, we just thought if the 6 was productive, then we could do, you know, maybe some other things in other areas. But we thought it would give us a well in that pool.

Q. All right. So if you're worried about

competition and drainage by the Cross Timbers well, and you have that knowledge in September of 1999 when that well starts to produce gas, and if you're concerned about that competition and drainage, isn't the most probable solution the one to take the Matthews 12 well and utilize that well?

A. Well, all I can -- The way I recall what happened is, we just looked at a well that would be the most economical re-enter. We didn't know what the field rules were going to be for this well. We thought it would be Monument-Tubb, 40-acre spacing and --

EXAMINER STOGNER: What did you say? Stop right there, go back. What did you say about the Monument-Tubb?

THE WITNESS: Just because most all the areas -- or all the wells in this area had been classified as Monument-Tubb, and we knew the Marathon wells were called Monument-tubb, and they were 40-acre-spacing wells, we just assumed that was going to be what this well would be called. So I really didn't worry too much about -- You know, I just looked for the most economical recompletion candidate at that point.

Q. (By Mr. Kellahin) All right. Mr. Denny, do you know that during all this period of time the Monument-Tubb oil wells are spaced on 80 acres?

A. I didn't know that at the time.

Q. All right. Let's look at the map that you

prepared. This is a structural map based upon your analysis of the data available; is that right?

A. Yes.

Q. Is this commercially available data, Mr. Denny?

A. As far as I know, it's -- Like I say, this map was constructed mainly with tops from PI.

Q. Let's compare your map to Mr. Wiley's map, and there's a difference, isn't there? Do you have his map?

A. Not a copy.

Q. All right, let me show you my copy. When you look at Mr. Wiley's map as an expert geologist, Mr. Denny, don't you conclude that Mr. Wiley is associating the Tubb oil wells in Section 8 with the Sapient gas well? He shows a connection and a link, doesn't he?

A. Would you re-state your --

Q. Yes, sir. In Section 8 --

A. Yes.

Q. -- you've got some oil wells?

A. Yes.

Q. Those are Tubb oil wells?

A. Down here.

Q. Yes, sir, in Section 8. And he's connecting those on his display with the same feature in which the Sapient gas well --

A. It would --

Q. -- right?

A. Yes, it looks like it.

Q. All right. When I look at your map, I don't see that connection. Am I misunderstanding what you're doing?

A. Like I say, there appears to be some lower wells there, and you can easily put a syncline in there.

Q. So, you show me an interpretation that would exclude the Tubb oil wells in 8 from being impacted or affected by the Sapient Tubb gas well in Section 7?

A. Yes, sir.

Q. All right. The ones you're drawing our attention to are the Marathon oil wells down in the southwest quarter of 5, right?

A. Yes, sir.

Q. Mr. Wiley does something also different from your map when we look at Section 5, all right? I'm going to give you his map back. There's a substantial difference between how you have chosen to handle the relationship of the Marathon Oil wells in the southwest of 5 as you move towards the gas well in the northeast of 7, correct? Do you see how they're different?

A. Yes.

Q. All right. What's the explanation for why you have not chosen to do what Mr. Wiley did?

A. Well, I didn't realize until today when these

fellows presented their map that I have no control for their Marathon Number 12 well.

Q. Okay.

A. And so when I constructed this map, evidently I had no log, and so I had no data point on that. So it was just left off.

Q. All right. You had a chance to see Mr. Von Rhee's geologic presentation of the structure with regards to the southwest quarter of 5, did you not?

A. Yeah.

Q. And his interpretation is, the explanation is, there's a fault separating the oil wells from the gas well, right?

A. Uh-huh.

Q. Is that not a reasonable position to take, based upon the data?

A. Based upon these two maps -- You could put in a fault, but it's not the only answer.

Q. Have you prepared an isopach, Mr. Denny?

A. No, sir.

Q. When we're trying to figure out where this gas reservoir is and Chevron decides to take the southeast quarter and to re-enter the Matthews 6 well, the letter supplied by Mr. Trautman indicates that attempt failed because the Tubb was tight. What does that do, then, to

the reservoir in the southeast quarter of 6?

A. All it tells me is that at that particular location the well was -- we were unable to establish production.

Q. What does that tell you is the next potential place at which you might have an opportunity to compete for the Tubb gas? Would it be farther away from the Number 6 well or closer to the Sapient well?

A. Well, you know, I guess you want to get closer to the apple tree, so we -- the Sapient.

MR. KELLAHIN: No further questions, Mr. Stogner.

We would at this time move the introduction of what I've marked Exhibit 20.

MR. CARR: No objection.

EXAMINER STOGNER: Sapient Exhibit -- That's 20?

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: -- will be admitted into evidence.

EXAMINATION

BY EXAMINER STOGNER:

Q. I'm referring to Sapient's Exhibit Number 20, the last page. Who of these people that are cc'd are responsible for interpretation of the rules and regulations for Chevron? Who should have caught that?

A. Mr. Stogner, from what I can recall on this, we

were calling the OCD trying to find out what the rules were going to be for that well, and it was considered a wildcat. So we didn't know what the spacing was going to be.

Q. Okay, when did you call them and when were you told it was a wildcat?

A. Well, I don't get involved a whole lot in spacing and all this kind of stuff, but the engineer working on it, Mr. Trautman, was -- he has a note that he was informed in October that the field had a field name of West Monument-Tubb, and it had a 160-acre proration unit.

Q. Do you know what a wildcat well is?

A. To me it just means a well that has no field rules, I guess, or it's just a new well.

Q. Do you know what the rules and regulations of New Mexico say what wildcat well is?

A. Like I say, that's really not what I get involved in too much. I just try to do the technical work.

EXAMINER STOGNER: Mr. Kellahin --

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: -- who in your part knows the rules and regulations of New Mexico? None of them testified to that.

MR. KELLAHIN: No, sir, and I explained in my opening --

EXAMINER STOGNER: Mr. Carr, who in Conoco did

you have here today?

MR. CARR: I don't have anyone who can testify as to --

EXAMINER STOGNER: How about Chevron?

MR. CARR: And I don't have anyone for Chevron who can testify to the rules.

EXAMINER STOGNER: Would that be important? I guess I'm missing something. I know the OCD made a big mistake. The OCD in Hobbs made a huge mistake, and I tell you what, I'm not going to cover up at all for that. We made a huge mistake in Hobbs. What do I do, fire that person?

MR. CARR: Are you asking me?

EXAMINER STOGNER: I don't know --

MR. CARR: I mean, I could --

EXAMINER STOGNER: -- it's just sort of general. No, I'm not asking.

MR. CARR: I can give an opinion, but I...

EXAMINER STOGNER: And then we get somebody new in there that don't know the rules and regulations too? Maybe that's where we should go.

I'll tell you what, what I've seen today so far, I'm beginning to doubt the administrative Application for the Chevron Well Number 12 should have even been issued at all, because it doesn't look like to me Phillips was even

notified, nor was Conoco.

Now, I did get Sapient's waiver of an objection, even though they did not get notified, evidently Sapient also got it, because I got some correspondence from them, Mr. Kellahin. So that waives Sapient's -- I mean, that introduced Sapient, so that waived them from the notification. And then the objection came in and of course it was waived. But that one waiver allowed me to approve that well.

I'm beginning to see now that that might not have been the best plan of action. And we did have that set to hearing, didn't we, and that was dismissed?

What should we do on that Application, Mr. Carr? I'm a little concerned that it doesn't look like to me adequate notification pursuant to Rule 1207.A

MR. CARR: I'd like to confirm who the actual owners are and see if there are waivers that can be presented.

EXAMINER STOGNER: Okay, with that I'm going to stay that administrative application by verbal today on the record, that Administrative Order NSL- -- what? 3726-A?

MR. KELLAHIN: Yes, sir, I think that's right.

EXAMINER STOGNER: Get the right number.

MR. KELLAHIN: 3752-A issued January 24th.

EXAMINER STOGNER: Okay, 3752-A is hereby stayed

pending further review by the Applicant.

MR. CARR: By Chevron, and we will report quickly.

EXAMINER STOGNER: Okay. Hopefully by the proper party.

Q. (By Examiner Stogner) Okay, Mr. Trautman is no longer working for the Western -- he's no longer in this portion of it, right?

A. That's correct.

Q. How about this R.M. Vaden? Who's he?

A. He's a landman.

Q. A landman. Does also know the rules and regs?

A. I can't speak for him.

Q. Uh-huh. Is he still working for Chevron?

A. Yes.

Q. He is? Is he here today?

A. No.

Q. Do you know why not?

A. No, sir.

Q. Is this the same R.M. Vaden that serves on the regulatory practices committee that makes recommendations to my boss about rules and regulations and how to change them and make them simplified? Is that the same person?

A. I think that was one of his responsibilities, I'm not sure --

Q. So he would be the regulatory expert in this instance?

A. I can't say for sure. I don't know exactly what all duties he has, but I think he does go to some -- or has in the past went to some regulatory commission rules -- or meetings.

Q. Maybe we need to subpoena him up here.

Okay, I'll start asking questions that you may evidently know something about, pursuant to this particular Exhibit Number 1. So we have possible oil production underneath this pod or area? Underneath that gas that's painted pink, I should assume that there's oil underneath there?

A. Yes.

Q. Pardon?

A. Yes.

Q. So this would be an associated -- a gas-cap reservoir?

A. I don' -- I'm not sure. All I know is, it looks like just one well has gas and the other three have oil, and the other three oil wells also produce some gas.

Q. But you're not here seeking associated pool rules for this Tubb production?

A. No.

Q. Why not?

A. I don't really know associated pools really mean, so --

Q. Who would?

A. I just have no experience with these type of reservoirs, so...

EXAMINER STOGNER: Okay, then in that case I have no other questions. You may be excused.

Mr. Carr?

MR. CARR: At this time we call Mr. Abel Lovato.

ABEL LOVATO,

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?

A. Abel Lovato.

Q. And where do you reside?

A. In Midland, Texas.

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

A. Chevron.

Q. And what is your position with Chevron?

A. I'm a petroleum engineer.

Q. Have you on prior occasions testified before the Oil Conservation Division?

A. No.

Q. Would you summarize your educational background for Mr. Stogner?

A. I'm a 1992 graduate from the New Mexico Institute of Mining Technology, New Mexico Tech, and I've been employed with Chevron in the west basin, or the Permian Basin, since 1992 to present.

Q. And you've been as a petroleum engineer at all times?

A. Yes.

Q. Are you familiar with what Sapient is seeking in this case?

A. Yes.

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

A. Yes, I have.

Q. Basically, what have you done, what have you tried to do?

A. I've just tried to calculate the gas in place around the Bertha Barber Number 12.

Q. Are you prepared to share the results of your work with Mr. Stogner?

A. Yes.

MR. CARR: We tender Mr. Lovato as an expert petroleum engineer.

EXAMINER STOGNER: Any objection?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: Mr. Lovato, you graduated in 1992. When did you start?

THE WITNESS: In 1987.

EXAMINER STOGNER: Okay, I don't -- No objection. I was just thinking -- Okay, yeah, Mr. Lovato is so qualified.

Q. (By Mr. Carr) Would you refer to what has been marked as Chevron Exhibit Number 3, identify and review this for the Examiner?

A. This is a production plot of the Bertha Barber Number 12 production since it was completed in August of 1999. The solid line on top is the cum production. The dashed and triangled -- or squared line on the bottom, is the daily production in MCF per date.

As a decline analysis, I used the bottom line or the bottom dashed line to predict the gas in place through decline analysis. I used the point starting in February of 2000 to January of 2001, and those calculations are on the next page.

Q. Okay, and you have calculated a decline rate for this well, and the calculations are set forth on Exhibit 4, correct?

A. Yes.

Q. Okay, let's go through those, please.

A. Okay. On the top of the page there you have your effective and nominal decline yearly. I used a 1400-MCF-per-day from the January, 2000, production, and I used 1176 MCF per day in January or December -- in December of 2000. And that calculated out to be about a 16-percent annual decline. And changing that over to a normal decline, that's 17 percent.

And then your expected recovery using that calculation comes out to be about 2.6 BCF, is what we can expect to recover from the Bertha Barber Number 12.

Q. Now, you've used another approach, have you not, to --

A. Yes.

Q. -- estimate ultimate recovery?

A. Yes, and the next line below there is the material balance equation. And using that material balance equation, I had to come up with a couple of assumptions, one of them being the reservoir pressure, initial reservoir pressure, and the other being your chemical analysis of the gas.

I obtained these from our gas group who transfer gas in the Monument-Tubb area, and those were just probability estimates from the information that they gather collecting gas.

When I ran through that equation, I came out with

a 2.2-BCF calculation which was in line with my previous estimate or the previous calculation, a decline analysis of 2.6. I believe I used a 250-p.s.i. abandonment pressure on the expected recovery, on the material balance equation.

Q. Now, you were able to take these numbers and calculate drainage radii, were you not?

A. Yes, and that's --

Q. Is that shown on the exhibit --

A. -- and that goes down -- yes, it breaks down into this next table.

Where I got the 2800-pound initial pressure from was the work that we had done on the G.C. Barber Number 6, the frac that was talked about earlier. I went back and I looked at the daily reports. And when they were going in to perf that well, the standard procedure is to fill the well with 2-percent KCl, for safety reasons. In case you have a blowout you'll be able to hold that gas in formation.

But when I went in there and shot the upper perfs, it was noted on the daily report that the well went on slight vacuum, which indicates that the hydrostatic pressure at that depth was over and above the pressure in the reservoir.

So after calculating what the hydrostatic pressure is with the fluid that they had in the reservoir,

it calculated out to approximately 2800 pounds pressure at formation.

So that's where I used on my material balance, that's the pressure that I used. And you can see that that's in the second small column, you can see where it says reservoir pressure, 2800 pounds.

The reservoir temperature, I also got that off of the G.C. Matthews Number 6, off of the log. That was 120. Gas density, I calculated that off of the gas composition supplied by the gas group.

Pseudoreduced pressure, pseudoreduced temperature is a calculated value, and then -- and from that value you come out with your Z factor or your compressibility factor for your gas, and I got a .841 at 2800 pounds.

Going further down this table, I calculated it at -- if we were on a 160-acre proration unit with a net foot of pay of 21 feet. And I got that off of the logs, off of the Bertha Barber Number 12, that's all they perforated was 21 feet of pay.

I estimated the average porosity to be 10 percent and the interstitial water saturation of 20 percent. I obtained that from other engineers who had a little more experience and time in the Tubb formation, Mr. Lloyd Trautman and Mike Howe. They helped me with that.

And so when you -- Using those numbers, I come

out with a gas in place of around 2.3 BCF for that well. And taking that number, that 2.377 BCF, it also falls -- you know, it will fall in line with what we estimated off of the decline analysis and also off of the material balance.

The next number underneath there is the 471,000 MCF that they have produced out of that well to date. That 20 percent below there is percent recovered of the 2.3 BCF, and that's again calculated on 160 acres.

This is also calculated radially, so if you back out the radius for the gas produced, 471,000 MCF, it comes out to a produced volume radius of around 296 feet radially around the Bertha Barber 12.

And since it's situated 330 feet off the lease line to the north and 330 feet off the lease line from the New Mexico Federal Unit, it's my estimation that the Bertha Barber will be encroaching on our gas reserves shortly.

And on the -- If you just go off of a 160-acre proration unit radius, if you take that 2.3 BCF, it calculates out to 1491 feet from the wellbore.

Q. Mr. Lovato, you were present this morning when Mr. Travis testified, were you not?

A. Yes, I was.

Q. And in his volumetric calculations he was using an initial pressure of 2570 pounds?

A. Yes.

Q. If we applied that number would we, in fact -- if you apply that pressure number to the table --

A. Yes.

Q. -- what sort of radius would we have as of January of this year?

A. It appears it would be within 317 feet and 342 feet there somewhere.

Q. Is it your testimony that the Bertha Barber well will, in fact, drain the Chevron and Conoco acreage in Section 7?

A. Yes, it's my opinion that it will.

Q. What are your recommendations concerning this Application?

A. Well, I recommend that the Sapient Application be denied and that they be -- they apply for a standard spacing unit of 160 acres.

Q. Do request that the well be shut in until a standard spacing unit is approved?

A. That would give us the opportunity to catch up, yes.

Q. Were Exhibits 3 and 4 prepared by you?

A. Yes, sir.

MR. CARR: Mr. Stogner, at this time we'd move the admission into evidence of Exhibits 3 and 4.

EXAMINER STOGNER: Exhibits 3 and 4 will be admitted into evidence.

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

EXAMINER STOGNER: Thank you, sir.

Mr. Kellahin, your witness.

MR. KELLAHIN: Mr. Stogner, thank you.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Lovato, did you assume the responsibilities for this project from Mr. Trautman?

A. Yes, I did.

Q. And when did that happen?

A. I was -- Lloyd and I were traded properties as of January 1st --

Q. Of this year?

A. Of 2001, yes. He had promised me that he wasn't going to leave me out in the cold and that he was going to help me with the January 21st hearing that was on the docket, and -- but that was canceled, so he had other obligations and he had to take his -- and he left me with this responsibility --

Q. As part of your responsibilities in replacing him, did you read the Chevron files that included Mr. Trautman's Application on behalf of Chevron for a Tubb gas

well in the southeast quarter of Section 6?

A. Southeast quarter of Section 6?

Q. Yes, sir.

A. Yes.

Q. All right. You've read all that stuff?

A. Yes.

Q. All right. Your last response to Mr. Carr, you talked about shutting in the Sapient well to afford Chevron a chance to catch up, right?

A. Yes.

Q. Chevron had that opportunity, if we are to believe Mr. Denny, in September of 1999, right?

A. I believe if that well hadn't made a well, we probably wouldn't be here. That's just my opinion.

Q. Well, my question is, you may not have known, but in September of 1999 Mr. Denny knew, and presumably Chevron knows, that there's a Tubb gas well just to the south, right?

A. Yes.

Q. All right. So the opportunity was there immediately after the well started to produce gas, right?

A. Yes.

Q. And you now want the well shut in, after 18 months of waiting to exercise your opportunity to compete?

A. Well, it's my understanding that Lloyd had -- or

Mr. Trautman had tried, or had conferred with Mr. Carr about getting the well, the Bertha Barber Number 12, shut in.

Q. That did not occur --

A. It did not occur.

Q. -- until fall of this year.

All right, my question is, what happened between September, 1999, and October of the next year that precluded Chevron from taking action with regards to the Cross Timbers well?

A. Well, I believe most of that time was taken to prepare properly for the G.C. Matthews Number 6.

Q. How much time would it have taken for a Chevron employee with knowledge to look at that gas well, decide where it was located, and see if the right acreage configuration had been dedicated to it?

A. Well, as Mr. Denny stated earlier -- I just don't have an answer for that. I don't know how long it would take. It...

Q. All right. You were not involved in Chevron's decision about choosing the Matthews 6 well as the first effort to attempt to compete with the Cross Timbers well, correct?

A. Correct. No, I just read the correspondence between Mr. Stogner --

Q. All right, and you were not involved in Mr. Trautman's response to Mr. Stogner in November of last year?

A. No.

Q. Okay. Let's look at -- Let me ask you this: Have you studied or made any reservoir investigation of this issue about having an oil pool with a gas cap?

A. No.

Q. You've not studied the gas-oil ratios of the Marathon wells?

A. No, just as I've listened to the Conoco testimony and Tim --

Q. Well, that's here today.

A. -- Mr. Denny and I, we discussed -- we looked at the production off of those Marathon wells, we looked at the production plots that we pulled off of *PI/Dwight's* --

Q. Okay.

A. -- and we looked at that stuff, yeah. We kind of looked at it where it fell on the map.

Q. Well, let me ask you what you saw. When you look at the Marathon wells, did you notice that of the three Marathon wells, the well with the highest gas-oil ratio was farthest downstructure?

A. No, sir, I didn't make that observation.

Q. Okay. Let's look at your Exhibit Number 3.

Where did you get the production information for the Sapient Barber Number 12 well for the month of February of this year?

A. I don't believe I have the data for February. I think I have it for January.

Q. All right, so I need to take the point, the data point on the February production and white it out, right? Is that --

A. Yes --

Q. -- last data point --

A. -- yes, yes.

Q. All right, that's not correct. Take me back on that line where it says just above the 1000-MCF-a-day line -- Do you see the line?

A. My calculation was done at -- The initial point was 1400 MCF, and then putting -- That was at December, and then giving it a year would put us at December, 2000, and I gave it 1176 MCF, which is below that 1236 MCF.

As we were going along, we -- As Lloyd was going along, he started collecting data, production data, and we just kept updating it, and I guess I've added a point -- I added that January number in there, but I've already done the calculation at 1176, which is below what's on the plot there.

Q. All right, here's what I'm trying to find out,

Mr. Lovato. When you look at Exhibit 4 and look at the top part of it, you've established an expected EUR of 2.6 BCF of gas?

A. Yes.

Q. I'm assuming that you have forecasted a production decline in order to get that 2.6 BCF of gas, correct?

A. Yes, yes.

Q. And so to find out how you did that, I'm looking back at Exhibit 3, to find out what point in time you have got a daily producing rate of 1400, right?

A. Right.

Q. Where is it?

A. That is right after the frac that was done in December, so it was in January.

Q. So January of the year 2000 is the starting point for that number, right?

A. Correct.

Q. Okay. And you're taking this on -- base this on the monthly production report?

A. Yeah.

Q. You're not looking at daily production?

A. No, I just took a monthly gross and then convert it to a daily number.

Q. You're not looking to see if the operator changed

the choke setting to change the amount of production being produced in any given period, right?

A. No, no.

Q. Do you know whether or not this was condensate production in association with the gas well or whether it was oil production?

A. I assumed it was oil production.

Q. Simply because of how it was reported?

A. Right.

Q. All right. So we've got the starting point for the 1400. How do I find the point in time that you have picked the 1176 number?

A. The 1176 would be one year from there, so it would be January, 2001.

Q. All right. And based upon that methodology, then, you are forecasting a straight-line decline at 16 percent a year?

A. Yes, sir.

Q. For the life of the well?

A. Yes, sir.

Q. All right. And when I look at the volumetric calculation, then, we've got some differences.

A. Yes, sir.

Q. Mr. Travis used the 30 feet of net pay in the reservoir that Mr. Von Rhee gave him based upon careful,

detailed log analysis of the Sapient well?

A. Yes, sir.

Q. And you're using 21 feet?

A. Yes, sir.

Q. Did you independently look at the log of the Sapient well and decide for yourself exactly how to value the dolomite and the limestone and pick the net thickness?

A. I got with Mr. Denny --

Q. Mr. Denny did it?

A. -- and we looked at it together and discussed, and we thought that that was the appropriate net pay.

Q. What's your background and experience in picking out those values on a log? Is that something you do?

A. Yes, I've done it before. I've been out in the field and we see something that hasn't been anticipated, and if I believe that I -- you know, it's the correct thing to shoot, I'll call the shots on it, and we'll shoot it.

It's hard for me to believe that you would -- Why wouldn't you shoot the whole 20 -- or 30 feet? I mean, that is unusual practice, as far as I'm concerned.

Q. Well, my education is in English literature, I can't tell you, Mr. Lovato. But I can tell you this: I have seen numerous instances where the operator will have a pay interval that far exceeds the actual perforations in the wellbore. Can you think of reasons why that might

work?

A. Yes, I guess I could think of reasons, but in this circumstance it's all right in one package. Why wouldn't you shoot all 30 feet of it, instead of just shooting 21 feet of it? I guess that's the part that I don't understand.

Q. How about a fracture treatment? That would communicate all the pay, wouldn't it?

A. That's to extend the fracture throughout the pay interval that you've chosen, yes.

Q. Are you going to tell me the fracture will stay confined in a horizontal extent to the level of the perforation and not move upward or downward?

A. Preferentially, it will move upward. And according to this, according to Sapient, they're saying that their -- unless I misunderstood, they're saying that their pay was down below.

Q. Well, my point is, you and Mr. Denny are selecting pay based upon the perfs, and you get 21 feet?

A. Yeah.

Q. And you've excluded the opportunity to suggest that the pay could be thicker, right?

A. According to our experience, yes.

MR. KELLAHIN: All right. No further questions. Thank you, Mr. Stogner.

EXAMINER STOGNER: Thank you.

EXAMINATION

BY EXAMINER STOGNER:

Q. So I can understand Exhibit Number 4, you've showed the produced volume radius, and the highest you show right now is 342. That's after going down the road, at least, right? Is that correct?

A. What I was trying to show on this was just a different scenario. Like I said, I really didn't have a good handle as to what the initial reservoir pressure is, and that is a big factor in this calculation.

I gathered the information that I could off of the G.C. Matthews 6, perforations, fluid levels after the frac when we tried to clean it up, and I came up with a best-guess estimate that it would be around 2800 pounds. But I still went ahead and I ran out these other different scenarios, just to see what that radius would come out to be if that well had a different initial -- or a lower initial pressure.

Q. So what is the -- Will this well produce 160 acres?

A. I believe it will if the decline analysis from all three engineers have put it around 2.3, 2.5, just off the decline analysis, so -- using the 10-percent porosity and the interstitial water saturation and net foot of pay,

I believe it will come up with 160 acres, because 160 acres at 2400 pounds came out to 2.0 BCF. So I believe it would.

Q. Okay, will the Chevron well up there in Section 6 -- do you expect that to produce 160 acres radius or, you know, have the effect of 160-acre spacing?

A. Well, we would have gone through the same analysis to be able to calculate that. I believe Mr. Trautman on this economic analysis had it at 1 -- top end of around 1 BCF. I think that's --

Q. Okay, but what happens when that well starts producing, since you show the well up to the northern part of that 160-acre unit to be tight? So it's not going to drain that, because that's too tight. So you already have some sort of a pressure differential down to the south of you because of this Bertha -- or this Sapient well.

So realistically, what kind of drainage will your Chevron well make?

A. In the G.C. Matthews Number 6, I -- In preparation for the G.C. Matthews Number 12, we were anticipating drilling that one, so I was going to look at the frac on it to see if there was anything that I could come up with that might -- you know, that might point us in directions to what went wrong with that well.

Both of those jobs on the -- frac jobs on the G.C. Matthews Number 6 and the Bertha Barber Number 12 were

done by BJ, and they were identical. We calculated average porosity was basically the same, depth was the same, everything was the same. They had good luck on theirs; we didn't have any good luck on ours.

I'm not saying -- You know, we keep referring to that there could have been some tight pay up there. Well, after reviewing the fracs off of both of those wells, I'm not 100-percent that it was just tight. For some reason, the G.C. Matthews 6 locked up right in the beginning, and it just didn't make any sense.

So I'm just -- I personally, with the little experience that I have there, I'm just not 100-percent sure that that area up there is tight. I believe my -- The method that I backed out the 2800 pounds came out close to what everybody else has, so the pressure is there. But, you know, is the porosity and the permeability there? I don't know.

Q. Well, is there any plans on going back into that well that is too tight or that was determined to be too tight, to open it up for Tubb production?

A. Well, we were going to attack this one step at a time. We were hoping, you know, to get some -- if this hearing was going to resolve the 160-acre spacing, then we wouldn't have that opportunity to go back and do anything on it. We would have to be content with what we got out of

the 12.

Q. Now, it's my understanding from Mr. Kellahin's cross-examination that you don't know if this is a gas cap or not?

A. Well, from the study that Conoco has presented and from the information that our geologist has given to us, we believe that it's a gas cap.

Q. Okay, so were you going -- So having three wells up in the gas cap producing all it could, wouldn't that affect that oil somehow?

A. Yes, sir.

Q. Would it adversely affect it or do good for it?

A. It would adversely affect it.

Q. Wow. But you think 160 acres is adequate spacing --

A. Yes, sir.

Q. -- for gas?

A. Yes, sir.

Q. Should that gas production be controlled to protect the oil underneath, or vice versa?

A. I don't have enough experience to be able to make that call.

EXAMINER STOGNER: I have no other questions of this witness.

Anything further, Mr. Carr?

MR. CARR: Nothing further, Mr. Stogner.

EXAMINER STOGNER: Mr. Kellahin, do you have anything further?

MR. KELLAHIN: No, Mr. Examiner.

EXAMINER STOGNER: Okay, so I believe we're ready to close at this point. Bear in mind, I'm going to have the final word.

Mr. Carr?

MR. CARR: May it please the Examiner, Sapient is before you as the operator of the well that is in a nonstandard unit, a well at an unorthodox location. And whether it was the fault of their predecessor or something slipped during the due diligence, we come before you. They have a problem. There has not been proper approval obtained in this Division for either the nonstandard unit or the unorthodox well location.

And when we look at the record, we can stand here and point fingers at who should have done what and how this might have played out differently, but today we stand here before you with a well with two necessary approvals not there. And I'm sure when Mr. Kellahin closes he'll point out all kinds of different things Chevron and Conoco might have done, and I'm sure we could have. And we could sit here and point out all kinds of things that Sapient might have done and should have done. But the bottom line is,

we've got a problem.

And the problem is not just that the nonstandard unit hasn't been approved and the location hasn't been approved. The problem also is that with all the evidence presented here today, every geological interpretation and every engineering witness shows that the Bertha Barber Number 12 well would drain not only acreage in the east half, east of 7, but also would drain reserves in the west half of the northeast of 7.

And if a standard spacing unit was created -- and Sapient could do that today -- then we'd have a standard spacing unit, no objection to a well location, and as to the narrow problem that's presented within the context of the Application that's before you, the matter could be addressed.

But it poses a second-tier problem for Sapient. We suggest they would have to, if they form a standard unit, share the production from that well with the interest owners in the west half of the northeast of 7, and they, for obvious reasons, don't want to do that.

The problem on the flip side for us is, we are those other owners, and we believe that we are the owners of the acreage and the reserves that ultimately will be drained by this well, and therefore we have a right and should be included in the standard unit. And to avoid

sharing the production, Sapient seeks approval of nonstandard spacing units and 80-acre spacing.

The nonstandard spacing units are actually ludicrous if you compare them to the real data on the reservoir. The well, the Bertha Barber 12, is not, 330 off the north line of Section 6, going to drain the east half of the east half, whether or not it's productive. And we submit that the best information shows that the southern portion of that spacing unit is not productive, is not contributing but, in fact, acreage owned by Chevron and Conoco is.

The other alternative, to go to 80-acre spacing, likewise simply doesn't match the evidence here today. The wells drain substantially more than 80 acres. You start packing them into this reservoir, you start having wells competing for the reserves, and you're going to be drilling far more wells than are actually necessary to develop the acreage.

And so the problem is, as we see it, that there is a well, it has not been permitted, the location has not been approved. There is a well, and it's on a spacing unit that doesn't make any sense. And if we could get back to the rules as close as possible on spacing, spacing would follow drainage, and the unit should be the northeast quarter of Section 7, and we should share.

We've been trying to compete with a well to the north. You've heard today the time frame that led to the Application which you today have stayed and which we will quickly address.

But I would point out that while we stand before you in an application state, we are in a position where we are not now before you with a well permit that's been properly approved. We've got a problem. And our well is shut in. And I would suggest that Sapient is standing before you with a well that hasn't obtained proper approvals, and until this matter is sorted out they should also be shut in.

We believe the way to resolve this matter is to deny the Applications, all of them, as to the spacing, as to the nonstandard spacing units, shut in the Sapient well until they form a standard unit, and approve their well location.

In the meantime, Chevron will go forward, sort out the concerns that have come up today about their Application, we will sort that out, and we will get on with developing the acreage to the north. We believe this is the only way that instead of letting the decisions here be governed by ownership or who might have not known this rule or not understood this, but to get back to what's happening in the reservoir and to how to prevent waste and protect

correlative rights, we believe that is the remedy that should be adopted by the Division.

Thank you.

EXAMINER STOGNER: Mr. Kellahin?

MR. KELLAHIN: Mr. Stogner, I have appeared before this agency and this Division for 29 years now, and when I first started doing this, I was taught by my dad and by Dan Nutter and others of experience and knowledge that the Oil Conservation Division did not have to be a policeman, that the industry had capable, conscientious, knowledgeable people that not only knew reservoir engineering, that not only knew geology, they knew the rules.

And with that expectation, that the industry was self-policing, I practiced before you for more than two decades before I ever came across an example of this kind of situation. We were self-policing each other, we would find each other's mistakes, we would call each other, we get them solved, we would notify the Division when they found mistakes or did not find mistakes, and these problems simply didn't occur, because we had knowledgeable people doing important work.

I find it astonishing that the major operators in the Monument area, who have been there for decades, the Chevrons and the Conocos and the Marathons, think they have

an oil pool with a gas cap.

Can you imagine the responsibility of those individuals and companies for not coming forward to you back in September of 1999 or calling Cross Timbers and saying, What in the world are you doing with a gas-cap well in my oil pool? Do you for a minute believe what we have seen here this morning?

This is the first time I have heard either Chevron or Conoco raise the contention that this Tubb gas well is in an oil pool. It's absolute nonsense. You can look at the exhibits, but look at your experience. Can you imagine Marathon not whining, complaining, filing something if they thought their oil production was jeopardized? Can you imagine Chevron with knowledge of the discovery, within days of it being completed, that they don't take action? Come on, give me a break.

And what are they supposed to do? They're supposed to compete. Isn't there anyone in that organization that knows this oil well, when it's now in the Tubb, should be 660 back from the side boundaries? Can't they make a phone call and figure that out? They had an opportunity to figure that out? They had an opportunity to fix this mistake, and they chose not to do so for whatever reason.

And 18 months have now gone by, and Mr. Carr on

behalf of his clients now want this well shut in. Well, shame on them.

This cannot possibly be a gas cap. You don't have to look at the data to recognize that it's not. The information will show you, if you care to look, that the Tubb gas well is a gas well producing condensate. It's a different critter, it's a different animal.

Aren't you disappointed when you see a presentation that fails to give you an isopach to show you the distribution, and all you get is a couple of structure maps from Chevron and Conoco, implying that there's a gas cap and an equity established between the southeast quarter of 6 and the northeast of 7? And yet they pretend not to know the significance of the Matthews Number 6 well.

And where's Mr. Trautman? He's the reservoir engineer for Chevron, the experienced man in the loop, who writes you and tells you the Number 6 well failed because the Tubb is too tight. And where was he back in September of the year 1999 when he had a chance to re-enter and use the Number 12 well and compete with the Cross Timbers well? They knew about it, they chose not to compete, they had the opportunity.

And what's the fix? I have agonized for months over what do we do. That agony has not precluded, however, Chevron from going to hearing on the objection. The

objection was filed in October, there was absolutely nothing beyond Chevron's control that precluded that case from going to hearing in November, December or January. They could have put it on any of those Examiner dockets and could have brought that to you far sooner than this. Don't punish me or Sapient because they didn't do what they could do, even over the objection.

So what do we do? We are now in a new world where no one has an expert that can read the book and figure out what to do. Sapient is here before you as a novice in New Mexico. It's unfortunate that they acquired this problem. But Chevron didn't bring it to your attention, Conoco didn't bring it to your attention. I brought it to your attention at the time you were reviewing this, and you and I both know it was a problem. And I immediately took action to get this resolved.

So what's the fix?

The fix is, I think, we just memorialize the problem, leave the equities established, continue with the approvals, approve the unorthodox location, create a nonstandard proration unit for the east half, east half, and let Chevron and Conoco go out and compete. And we're talking about competing at a minor level when the cost of the competition is a well that is estimated to cost $350,000.

In return, there's the opportunity for Chevron and Conoco to share a BCF of gas. Mr. Travis testifies it will be unique reserves, and he testifies to something that's critically important for your decision. Based upon careful log analysis and his engineering calculation, they have carefully detailed to you what he has calculated to be the area affected by the well. And based upon his judgment, it's somewhere between 103 and 107 acres.

Is not that the solution? Don't we create an 80-acre gas pool of a defined, limited extent, and let each of the parties go out and participate on that basis?

And look how fair it is to Chevron. They have already condemned two-thirds of their spacing unit. There's only 40 productive acreage in the southeast quarter. Let them have that Number 12 well and let them go compete.

And what do we do about the west half of the northeast quarter? That's a logical spacing unit. Chevron and Conoco are big boys, they can go drill a well in what we think is a thinning portion of the reservoir that is substantially undervalued in terms of what Sapient has acquired, and let them go compete.

But no, that's not what they want to do. What they want you to do is, they want you to take hundreds of thousands of dollars from Sapient and redistribute it to

Conoco and the interest owners in the west half of the east half. And there's simply no recourse for Sapient except to do that if you tell us we must.

We think it's inequitable, we find it incredibly disappointing that this problem occurred. With all due respect to Mr. Kautz, I have great admiration for his dedication to the Oil Conservation Division. He seldom, if ever, ever, overlooks such an obvious issue, and I'm just sorry he didn't catch it.

Thank you.

EXAMINER STOGNER: I want this to be a lesson to everybody, what you don't know will hurt you. Chevron is going to see, and will see, in the Jalmat and the Eumont -- I guarantee that -- and Conoco.

The three companies today, any future administrative applications you file, if they're returned to you as incomplete, don't call me and ask me what it is. You figure it out.

I've spent I don't know how many hours on applications that each one of you have filed -- I should say Cross Timbers in this instance. But Sapient, take my word for it. If you get something back that says "incomplete", there's only one word on it, don't call me and ask me what it is. Don't waste my time. You are supposed to know.

Continental Oil Company, Gulf Petroleum, set these rules and regulations up as the Lea County Operators' Committee back in the 1920s and 1930s. Not me, not a bunch of government employees, but the companies got together. And they didn't want to know -- they didn't want to see what happened working at Texas or in Oklahoma happen here in New Mexico.

Mr. Kellahin is right, when I first started, I learned from the industry people. They taught me. And the reason I asked you about when you got to Socorro, a man by the name of Wayne Taylor, who worked for the Kansas Corporation Commission, gave me the insight about that this kind of government intervention is needed and is definitely warranted out there.

And today, that proves it. That was the reason I asked you. And he worked in the time in the industry when people knew what was going on.

I will put an expedite on this, but I don't want Conoco, Chevron calling me at least for a month on any pending applications -- I've got one on my desk for Conoco I'm fixing to get out today -- because Kay, who should have been here, who you should listen to first, knows what she's talking about.

If you'd like, Mr. Carr and Mr. Kellahin, you can give me a rough draft order as soon as possible.

With that, I don't see anything further in this matter, other than taking it under advisement at this time. So Cases 12,587 and 12,605 will be taken under advisement, and this hearing is adjourned today.

(Thereupon, these proceedings were concluded at 3:45 p.m.)

* * *

I hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case Nos. 12587 and 12605 heard by me on 1 March 2000.

Examiner

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 March 11th, 2001.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002