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 GRUY PETROLEUM MANAGEMENT FOR AN UNORTHODOX WELL LOCATION AND SIMULTANEOUS DEDICATION, LEA COUNTY, NEW MEXICO	CASE NOS. 12,015
APPLICATION OF GRUY PETROLEUM MANAGEMENT FOR AN UNORTHODOX WELL LOCATION AND SIMULTANEOUS DEDICATION, LEA COUNTY, NEW MEXICO	and 12,017 (Consolidated)

ORIGINAL

98 SEP 17 AM 8:00 OIL CONSERVATION DIV

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

September 3rd, 1998

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, September 3rd, 1998, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

September 3rd, 1998
Examiner Hearing
CASE NOS. 12,015 and 12,017 (Consolidated)

(Continued...)

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Hartman	Identified	Admitted
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A P P E A R A N C E S

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ALSO PRESENT:

MARK W. ASHLEY
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* * *

WHEREUPON, the following proceedings were had at 8:27 a.m.:

EXAMINER STOGNER: All right, at this time I'll call Case Number 12,015.

MR. CARROLL: Application of Gruy Petroleum Management for an unorthodox well location and simultaneous dedication, Lea County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan. We represent Gruy Petroleum Management Company in this matter, and I have three witnesses.

MR. GALLEGOS: Mr. Examiner, I'm Gene Gallegos. Along with me is Michael Condon. We're appearing on behalf of Doyle Hartman. We will have one witness.

MR. CARR: May it please the Examiner, at this time we would request that this case be consolidated for the purpose of hearing with Case 12,017, which is also an Application of Gruy for an unorthodox location and simultaneous dedication.

We have discussed this with counsel for Mr. Hartman, and I believe we agree that it would be most efficient to present them at one time.

MR. GALLEGOS: We join in that motion, Mr. Examiner.

EXAMINER STOGNER: At this time, then, I'll call Case Number 12,017.

MR. CARROLL: Application of Gruy Petroleum Management for an unorthodox well location and simultaneous dedication, Lea County, New Mexico.

EXAMINER STOGNER: Other than the Applicant and representatives of Doyle Hartman, are there any appearances in either or both of these cases?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of Armstrong Energy Corporation, who's an interested party in these cases.

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

MR. KELLAHIN: No, sir, I do not.

EXAMINER STOGNER: Is there any need for opening remarks or comments at this time?

MR. CARR: No, sir.

MR. GALLEGOS: No.

EXAMINER STOGNER: All right. In that case, Mr. Carr?

MR. CARR: May it please the Examiner, at this time we would call Mr. Greg Jessup, J-e-s-s-u-p.

MR. CARROLL: Swear the witnesses.

EXAMINER STOGNER: Oh, I'll tell you what.

Before we continue, I'll have all witnesses please stand to be sworn at this time.

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: Mr. Carr?

GREGORY L. JESSUP, SR.,

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. Gregory L. Jessup, Senior.

Q. And where do you reside?

A. Mesquite, Texas.

Q. By whom are you employed?

A. Gruy Petroleum Management Company, which is a wholly owned subsidiary of Magnum-Hunter Resources, Incorporated. And in point of fact, Magnum-Hunter Production, Incorporated, holds title to all our properties, and Gruy operates those properties.

Q. What is your position with Gruy Petroleum Management Company?

A. I'm the vice president of land.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. No.

Q. Could you summarize your educational background for Mr. Stogner?

A. I have a BBA in management from Texas Tech University, 1975, and continuing-education courses including oil and gas contracts, University of Tulsa.

Q. Are you a certified petroleum landman?

A. Yeah, I'm a certified professional landman, is actually the title, through the AAPL.

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

A. From 1977 to 1982 I was an independent landman, and I was hired by Kim Petroleum Corporation in Dallas as land manager and held that position from 1982 to 1997, and then was hired by Gruy as land manager -- it was May of 1997.

Q. Are you familiar with the Applications filed on behalf of Gruy in these consolidated cases?

A. Yes.

Q. And are you familiar with the status of the lands in the subject portion of the Rhodes Gas Pool?

A. Yes.

MR. CARR: We tender Mr. Jessup as an expert witness in petroleum land matters.

EXAMINER STOGNER: Any objection?

MR. GALLEGOS: No objection.

EXAMINER STOGNER: Mr. Jessup is so qualified.

Q. (By Mr. Carr) Mr. Jessup, initially would you summarize for the Examiner what it is that Gruy Petroleum Management Company seeks in these consolidated applications?

A. Concerning 12,015, it's for an approval of an unorthodox gas well location for the Rhodes Federal Unit Well Number 43, being 2310 feet from the south line and 9900 feet from the west line of Section 4, which is 26 South, 37 East, Lea County, and --

Q. That well location is 990 from the west line?

A. Yes, 990 from the west line.

And then the simultaneous dedication of the southwest quarter of Section 4 to the Rhodes Federal Unit Well Numbers 43, 415 and 41, to form a standard gas spacing unit in the Rhodes-Yates-Seven Rivers Gas Pool.

Q. Okay, what about Case 12,017?

A. That's for the approval of an unorthodox gas well for our Rhodes State Com Well Number 5, and that's located 330 feet from the north line and 2310 feet from the west line of Section 16, and that's 26 South, 37 East, Lea County.

Q. Also in that case you're seeking the simultaneous dedication of wells in the northwest of 16?

A. Right, in the northwest quarter of Section 16 to

this well, the Gruy Rhodes State Com Wells Number 18 and 19, to form a standard gas spacing unit in the Rhodes-Yates-Seven Rivers Gas Pool.

Q. Briefly, what rules govern the development of gas units in the Rhodes-Yates-Seven Rivers Gas Pool?

A. Well, that would be the statewide rules, 160-acre gas well spacing and 660-foot setbacks.

Q. Is Gruy in this case today seeking any change in the pool rules for the Rhodes Gas Pool or the Rhodes Oil Pool?

A. No.

Q. Let's go to what has been marked as Gruy Exhibit Number 1, and I would ask you to identify this and review it for the Examiner.

A. Okay, this is for the -- to show the pool boundaries. We got these from the OCD plats.

The Rhodes Gas Pool shows there as depicted in the red, and the Rhodes Oil Pool is depicted in the blue.

And then in the green, that shows the spacing units. We've got this information from Burlington, and this identifies all the spacing units.

We also show some crosshatched areas in there. Those signify the nonstandard units that are within this area.

And we also show the well locations in the two

areas that are the subject of this hearing, the southwest quarter of Section 4, and the northwest quarter of Section 16. And you can see also there's numerous multi-well locations in there.

Q. Mr. Jessup, let's go to what's been marked as Gruy Exhibit Number 2. What portion of this exhibit did you prepare?

A. The portion, at least, that was prepared under my direction are those columns -- they would be to the left of the status column.

Q. Okay, and then the remainder of the exhibit was prepared by Mr. Lee, who will testify later?

A. Yeah, H.C. Lee, right.

Q. What does the left-hand portion of this exhibit show?

A. Well, what it shows are nonstandard spacing units that are in this pool, and the spacing units were -- they're located more than one producing well.

Q. Basically, this is just a tabular summary of information that is shown on Gruy Exhibit Number 1; is that correct?

A. That's correct.

Q. The remainder of the exhibit relates to the technical portion of the case?

A. Yeah, that's -- Mr. Lee prepared that.

Q. Let's go to Gruy Exhibit Number 3. What is this?

A. Okay, this is a schedule of offset oil operators. Now, this also shows the standard spacing unit, which is in red, the southwest quarter of Section 4. It shows the subject wells. They're depicted as RFU -- Rhodes Federal Unit 43, 41 and 415.

Forty-one and 43 -- Or excuse me, 41 is an existing well, 43 is a recompleted well, and the 415 has been drilled.

And if you look -- Well, the blue depicts the oil operators themselves, and then if you look at the back, the attached list identifies them.

And as far as the gas rights, Gruy is the offset operator.

Q. And what we're showing here is just the offsetting oil operators?

A. That's right.

Q. Okay. If I look at this exhibit, Armstrong Energy owns a tract in the -- that offsets the proposed -- the subject spacing unit in the northeast of Section 8; is that correct?

A. That's correct.

Q. There is one well location shown in Section 8?

A. Yes, one location.

Q. That's in Unit I?

A. Yes, sir.

Q. What is the status of that well?

A. It's been drilled.

Q. And who drilled that well?

A. Armstrong.

Q. Are there any other plans to develop Section 8 with any additional drilling in that section?

A. No.

Q. Now, let's go to Gruy Exhibit Number 4. Will you identify and review that?

A. This is a schedule of offset oil and gas operators. Here again, depicted in red, it shows the standard spacing unit that we're discussing, northwest quarter of Section 16.

The wells that are shown are the Rhodes State Com 18, which is an existing well, 19, which is also an existing well, and those are presently producing concurrently. And then it also shows Rhodes State Com Number 5, which has been drilled.

The offset owners are shown on a plat. Oil is blue, and the gas is shown in green. And if you turn the page, they're identified on the attached list.

Q. In the subject spacing unit, the Wells Numbers 18 and 19, are those wells that you acquired from Burlington?

A. Yes.

Q. And they were concurrently producing on this unit while operated by Burlington --

A. Yes.

Q. -- is that right?

A. Yes.

Q. Based on your review of the title information in the area, does it appear to you that Mr. Hartman owns any interest in any of the properties immediately offsetting either of the subject spacing units?

A. No.

Q. Are Exhibits 5 and 6 notice affidavits which confirm that notice of this hearing has been provided in accordance with Oil Conservation Division Rules and Regulations?

A. Yes.

Q. And to whom has notice been provided?

A. All of the offset oil and gas operators.

Q. Will Gruy call an additional witness to review the background events which resulted in the drilling of the wells which are the subject of this hearing?

A. Yes.

Q. Will Gruy also call a geological and engineering witness to present evidence which shows that these wells are necessary to protect the correlative rights of Gruy?

A. Yes.

Q. Were Exhibits 1 and 3 through 6 prepared by you or compiled under your direction?

A. Yes.

MR. CARR: At this time, Mr. Stogner, we'd move the admission into evidence of Gruy Exhibits 1 and 3 through 6.

EXAMINER STOGNER: Any objections?

MR. GALLEGOS: No objection.

EXAMINER STOGNER: Exhibits 1 through 6 will be admitted into evidence.

MR. CARR: That includes my direct exam- -- concludes my direct examination of Mr. Jessup.

EXAMINER STOGNER: Mr. Gallegos, questions?

MR. GALLEGOS: Yes, I have a few questions.

CROSS-EXAMINATION

BY MR. GALLEGOS:

Q. Mr. Jessup, when did you begin working on this project?

A. It was shortly after I came on board, probably immediately after I came on board.

Q. And I missed that. When did you come on board?

A. Actually, I came in March of 1997, is when I actually started working. And I was contracted at that time for three months, two or three months, and then I was given a full-time job in May of 1997.

Q. These properties that are involved in this Application and generally in this Rhodes Gas Pool area were acquired from Burlington --

A. Yes.

Q. -- by Magnum Hunter?

A. Yes.

Q. When was that acquisition completed?

A. Well, it was effective January 31st, 1997, and I believe we closed that May 1st, 1997.

Q. And then when you came on board, what was your assignment as regards these particular properties?

A. Basically, we looked to confirm our actual rights that we feel we had bought through the transaction, and then we would look for offset operators or owners, as was necessary.

Q. Have you at some time, Mr. Jessup, seen a copy of the rules of the New Mexico Oil Conservation Division?

A. No.

Q. Okay. This book right here that happens to be on the table is commonly used. You haven't seen this before?

A. I have not. That -- Zeno Farris is our operations manager and handles all of our permitting and regulatory aspects of our company, so he would be the one to speak to that.

Q. So you leave everything to him in that regard?

A. Yes.

Q. Okay. Now, you testified that in -- I believe the question was asked, and your answer was in the affirmative, that Gruy was not seeking a change in the pool rules at this time?

A. Yes.

Q. Are you familiar with the language of your Application in both Case 12,017 and 12,015 that reads as follows, quote: Until the rules for these pools can be amended and perhaps the oil pool even abolished, Gruy seeks an exception to the well-location requirements, et cetera --

A. Yes.

Q. -- simultaneous dedication?

A. I recall that.

Q. Okay. Would you illuminate us on the intentions of your company, then, in regard to changing the pool rules or even abolishing the Rhodes Oil Pool?

A. I would defer to H.C. Lee, who is our geologist. I'd defer that to him, let him discuss that.

Q. You're not informed in that regard?

A. No.

Q. What is the object -- I guess this list that I hold in my hand was part of -- It's Exhibit 2, okay? It didn't have an indication on it.

MR. CARR: It should be on the back.

Q. (By Mr. Gallegos) Oh, I see. Thank you.

It's a table of Rhodes Gas Pool wells?

A. Yes.

Q. You prepared this?

A. It was prepared under my direction.

Q. Okay. And you made the comment that if one examines this, you'll find that in some cases there's more than one well on 160-acre spacing?

A. Yes.

Q. Okay. Well, the first lease issued -- or listed, of course, is one of the ones that's the subject of the dispute in this Application; isn't that correct?

A. Yes.

Q. All right. And there's three wells in that particular --

A. Yes.

Q. -- lease?

And the other -- the second page at the bottom, the northwest quarter of Section 16 showing three wells, would be also one of the leases that's in dispute in the other case, I guess, the 12,017 case?

A. Yes.

Q. Okay. Now, are you aware that in 1982 when the Rhodes Gas Pool was created that certain wells were

grandfathered in as to the spacing, as to instances where there were more than one well on the lease?

A. No.

Q. Okay. Do you know whether there are any instances here of multiple wells on the lease that were not either grandfathered in, in 1982, or are the multiple wells that are the result of Gruy's actions?

A. No.

Q. In addition to working on the land projects that are related to your -- what I'm going to call your Section 4 and your Section 16 --

A. Uh-huh, uh-huh.

Q. -- drilling, there are other proration units that you have worked on; isn't that true, Mr. Jessup?

A. Yes, there are others that we have worked on out in that area.

Q. Well, the fact of the matter is that Gruy has a drilling project, a multiple well, what you would call an infill well drilling project in this immediate area; isn't that true?

A. I'd have to defer that to H.C. Lee, our geologist, to speak to that.

Q. Well, just speaking from the standpoint of what you've done as a landman --

A. Uh-huh.

Q. -- you have addressed other areas within the Rhodes Gas Pool as part of this overall project, along with the Section 4 and Section 16 work; isn't that true?

A. We in the land department are always looking to verify ownership in areas, but it's not necessarily for any specific well or prospect that we have, if that's what you're asking.

Q. Well, I'm saying you have a -- I believe it's a 13-well drilling program in this immediate vicinity; isn't that right?

A. I'd have to defer to H.C. Lee to speak to that.

Q. You don't know?

A. I'd have to defer to H.C. Lee to speak to that.

Q. Well, can you answer the question?

A. Speak it again.

Q. That you have a 13-well drilling program in the immediate vicinity, which includes Section 4 and Section, but other nearby proration units; isn't that true?

A. I have no knowledge of that.

MR. GALLEGOS: No further questions.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: No redirect.

EXAMINER STOGNER: You may be excused -- I'm sorry, Mr. Kellahin --

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINER STOGNER: -- any questions?

MR. KELLAHIN: Yes, sir.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Jessup, if you'll turn with me to Exhibit Number 1 --

A. Yes.

Q. -- let's look at the southwest quarter of Section 4 of that spacing unit.

A. Yes.

Q. Gruy operates that 160-acre spacing unit?

A. Yes.

Q. At the time you acquired that spacing unit, were any of these three wells in existence?

A. Yes, I believe there were. I think I spoke to -- Let's see, 41 was an existing well, yes.

Q. Who drilled that well? Do you know?

A. I really couldn't tell you. I don't know if that was -- I know it was a predecessor.

Forty-three was there, but I believe it was a plugged well.

Q. All right. So Gruy's actions have resulted in 43 being worked over and is now a gas well?

A. Yes, that's right.

Q. And then you -- your company drilled Well 415?

A. Yes, that is correct, right.

Q. Within that spacing unit, does Gruy have any rights to the oil production?

A. I -- Well, you know, I'm not sure on that. I'm not sure on that. I'd have to check.

Q. Are you responsible for permitting or compliance with the Division rules concerning the well density in that spacing unit or the well locations?

A. No, that would be Zeno Farris.

Q. When we look at the northwest quarter of 16, at the time Gruy acquired this interest, what wells were in existence?

A. I believe 18 and 19 were in existence, and they're the ones I mentioned that are producing concurrently.

Q. And so Gruy drilled Well 5?

A. I believe that is correct. Yes, that's correct.

Q. Prior to drilling Well 5, what was the status of Well 18 and 19?

A. As far as I know, they were concurrently producing.

Q. You mentioned in response to Mr. Carr that Gruy did not have plans for any gas wells in Section 8; did I understand that correctly?

A. That is correct.

Q. Do you have an interest in the gas rights within Section 8?

A. Yes, we do.

Q. Section 8, then, is not one of your interests that's targeted for any of the increased-density or gas wells that Gruy intends to drill?

A. That is correct.

Q. Is the circumstance of having wells in excess of the number allowed under current rules by the Division going to be limited to these two spacing units?

A. I'd have to let probably H.C. speak to that, H.C. Lee.

Q. Does Gruy intend to drill more than one gas well in any other existing gas spacing unit in the gas pool?

A. I'll let H.C. Lee speak to that.

Q. What caused Gruy to drill these wells in these two spacing units without regard to the Division rules?

A. I'll let Zeno Farris speak to that.

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINATION

BY EXAMINER STOGNER:

Q. One question, on Exhibit Number 2 --

A. Uh-huh.

Q. -- is there anywhere on this exhibit that denotes the operators?

A. I do not believe so, Mr. Examiner, I don't see that on there.

Q. How many of these are Gruy-operated properties?

A. I don't have that in front of me, and I'd honestly have to get some other information to be accurate with that.

MR. CARR: Mr. Examiner, we have an exhibit later that identifies all of the Gruy wells in the pool, that may answer that.

EXAMINER STOGNER: Thank you, Mr. Carr.

If there's no other questions, this witness may be excused.

MR. CARR: At this time we call Mr. Zeno Farris.

EXAMINER STOGNER: Hang on here.

I'm sorry, Mr. Carr. Thank you.

ZENO FARRIS,

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. Zeno Farris, Z-e-n-o F-a-r-r-i-s.

Q. Mr. Farris, where do you reside?

A. Fort Worth, Texas.

Q. By whom are you employed?

A. Gruy Petroleum Management.

Q. And what is your position with Gruy?

A. I am manager of operations administration.

Q. In that position, are you the person responsible for obtaining appropriate permits from administrative agencies and dealing with regulatory bodies?

A. Yes, that's correct.

Q. Have you previously testified before this Division?

A. No.

Q. Would you summarize your educational background, please?

A. I received a BS from New Mexico State in 1974.

Q. Would you review your work experience with the oil and gas industry?

A. I started with El Paso Exploration Company in 1980 as a Division order analyst. Through various mergers with several companies, I ended up in Fort Worth with Burlington Resources, where I worked as a supervisor of production control and revenue settlement until November of 1987, when I went to work with Gruy.

Q. And you've been with Gruy since November --

A. I've been with Gruy since, yes.

Q. Since 1997?

A. November of 1997, that's correct.

Q. Are you familiar with the Applications that have been filed on behalf of Gruy in each of these cases?

A. Yes.

Q. Were you involved with the permitting process for the wells that recently have been drilled by Gruy in the Rhodes Gas Pool?

A. Yes.

Q. When did Gruy actually acquire these interests?

A. We acquired them in May of 1997, effective January of 1997. They were part of a Burlington Permian package that included roughly 1800 wells. We acquired all rights that Burlington had, and in the Rhodes area we acquired primarily gas rights, and there's other people -- Texaco and others -- that own the oil rights.

Q. Were you involved with the decision to drill additional wells on spacing units which are the subject of these cases?

A. Not in the decision to drill. Our geologist was responsible for picking the locations. I was responsible for the regulatory aspects of getting these wells permitted.

Q. So once it was decided to go forward with the wells, they came to you and it was your job to obtain proper approvals?

A. Yes.

Q. And your engineering and geological witness, Mr. Lee, is going to review in detail how these particular locations were actually selected and what future plans will be made?

A. Yes.

Q. Now, when you were contacted about obtaining permits for the additional wells in each of the two subject spacing units, what did you do?

A. This is the first time that we had permitted a well in New Mexico and the first time I had permitted a well in New Mexico, so I contacted people in the industry and various consultants, to try to pinpoint somebody we could hire to do this process for us. And we ended up hiring a consultant in Hobbs to permit our wells.

Q. And did you provide him with the data necessary to obtain these permits?

A. Yes.

Q. Did you have any direct contacts with the Oil Conservation Division at that time?

A. Yes, I did. I had called the OCD office in Hobbs to try to get a feel for what it was we would have to do, and they told me I needed to talk to Michael Stogner. So I called him up and in general had discussions with him about the process.

Through the course of this it became apparent if

we were going to put more than one well on a 160, we had to apply for a simultaneous dedication application.

Q. And did he advise you that that would require a hearing?

A. Yes, and we would need an attorney. And that's when we started to pursue somebody to represent us in that area.

Q. Did you actually receive approved permits to drill the subject wells?

A. Yes, we did.

Q. And you received how many permits? Do you recall?

A. Roughly at that time we received permits for approximately seven wells. And, you know, we've since received permits for the rest of the wells also.

Q. And the permits that you obtained included the wells that are the subject of this hearing, and also other wells in the pool, correct?

A. Yes.

Q. Did some of these wells offset Hartman-operated properties?

A. Yes, they did.

Q. When did you learn about the memorandum from Mr. LeMay concerning the Division's policy limiting multiple wells on gas units in nonprorated pools?

A. I learned about that specific memo when we received a letter from Mr. Hartman, basically outlining areas where we were remiss in our permitting process, and he had attached a copy of that memo at that point in time.

Q. And what did you do with that?

A. We read it and had some discussions with our group and had decided that, yes, we hadn't notified the offsets on the wells that are adjoining Mr. Hartman. So we decided to move to an area where we basically offset ourselves or we had limited exposure to offset operators.

Q. It was after that that you filed the Applications which are the subject of this hearing; is that right?

A. Yes, sir.

Q. Was Mr. Hartman advised by Gruy that you would not proceed with the drilling of wells on tracts offsetting his property, pending OCD approval?

A. Yes.

Q. And is it Gruy's position that they will not go forward with the drilling of any well offsetting Mr. Hartman's property until and if permits are obtained from the Oil Conservation Division that authorized the drilling of these wells?

A. Yes.

Q. Were there any other discussions with the Oil Conservation Division concerning this matter?

A. Prior to that I had had a call in to Mr. Stogner to kind of clarify some of the issues with the simultaneous dedication. I did not receive a call, a direct call back where I talked to him directly, but I did receive a voice mail from him, and he basically indicated to me that it looked like this was going to hearing, since he had received the -- he had also received the letter from Mr. Hartman, and that what I needed to do was make sure I knew the rules and get in touch with an attorney.

Q. Did he advise you that he could not discuss the matter further?

A. Right, because he didn't want to compromise his position. So basically, you know, I didn't contact him about these issues anymore.

Q. You were involved with the efforts to permit and locate the Rhodes State Com 1 Number 5, were you not?

A. Yes.

Q. Where is that well actually located?

A. That well is located 330 feet from the north line and 2310 from the west line in Section 16, 26 South, 37 East.

Q. And is that where you initially intended to drill a well?

A. Yes. Our geologist had picked that location initially, and that information was given to our consultant

in Hobbs, and it was originally permitted at that.

Q. Did you stake the well at that --

A. Yes --

Q. -- 330 location?

A. -- we had staked the well at that location.

Q. Then what happened to cause you to change your mind?

A. Well, what we wanted to do was limit our hearing issues. We knew we had a simultaneous-dedication issue; we didn't really want an unorthodox-well-location issue. So we went back and amended that permit to 660 from the north line and 1980 from the west line.

Q. Was the well then staked at that location?

A. The well was then staked at that location, yes, sir.

Q. How did this well get drilled at a 330 location from the north line?

A. Well, what happened was -- and I'm getting this from our field supervisor -- both staking locations were left in the ground. So when he went out with the contractor to build the location, they built the location at the first staking, which was the 330 from the north and 2310 from the west. So it was built there. Now --

Q. When did you find out about it?

A. Well, the day they spud the well, our field

supervisor at that point in time was looking at the location, and it didn't seem quite right to him, so he called me up and asked me where it was supposed to be.

And I said, Well, it's 1980 from the west, 660 from the north.

And, you know, he was -- he said, Well, I think we put it in the wrong place. He wanted to know what we could do.

And at that point in time I said, Well, what have you done?

And they -- You know, they set the conductor pipe and set the cement in there.

I said, Well, wait until I can get ahold of the OCD and find out whether or not we're going to have to plug this well and move it to a legal location.

At that point in time I called Mr. Stogner to try to get some advice. And in discussions with him we had talked about where it was we had actually moved the well, and we're actually moving it north of the only gas offset operator. And he indicated to me that we could go ahead and drill the well at our own risk, with the understanding that we'd have to go to hearing to get simultaneous-location approval and unorthodox-location approval.

Q. And as you drilled the well, you knew you were doing so at your own risk?

A. Yes.

Q. Who operates the spacing unit north of the proposed unorthodox location?

A. Gruy Petroleum Management?

Q. And to the east?

A. Gruy does also.

Q. Is Gruy also the northeast offset?

A. Yes.

Q. The Rhodes Federal Unit Number 43 well is also at an unorthodox location?

A. Yes, it is.

Q. Could you just summarize the circumstances that have resulted in the well being at that location?

A. Well, that well was originally drilled in the 1950s by J.B. Oil Company. Burlington succeeded to that well and sometime in 1993, I believe, or 1996, or something, set a cast-iron bridge plug and walked away from it. They determined that the well was no longer a commercial oil producer. And that was a property which our geologist had identified as having some uphole potential.

Q. And you recompleted that well?

A. Yes, we did.

Q. Was that done this year?

A. Yes, it was.

Q. Now, this well was originally drilled as an oil

well; is that right?

A. Yes.

Q. Was it at a standard oil-well location?

A. Yes.

Q. But when it was recompleted in the gas zone it became unorthodox?

A. Yes, it became unorthodox for a gas well, yes.

Q. Do you have anything to add to your testimony?

A. No.

Q. Will Gruy call your geological and engineering witness to discuss the technical portions of this case and the correlative-rights issues?

A. Yes.

MR. CARR: At this time that concludes my direct examination of Mr. Farris.

EXAMINER STOGNER: Thank you, Mr. Carr.

Mr. Gallegos?

CROSS-EXAMINATION

BY MR. GALLEGOS:

Q. Mr. Farris, let's go back a little bit to your experience.

A. Uh-huh.

Q. You were last employed, before Gruy, by Burlington Resources?

A. That's correct.

Q. And I think you said you were in production control?

A. Yes, sir, revenue settlement.

Q. Okay. And about how long had you been doing that?

A. I've been doing that since about 1987, about ten years.

Q. Okay.

A. About seven years in Division order land work and about ten years in issues relating to revenue settlement.

Q. Did you -- When did you leave Burlington?

A. November of 1997.

Q. And went directly to work with Gruy --

A. That's correct, I --

Q. -- at that time?

A. -- basically came over with that package.

Q. Okay. So is it correct to say that your prior experience did not relate directly to the kind of regulatory compliance and permitting work that you undertook for Gruy?

A. That is correct.

Q. So this is a new ball game for you?

A. New ball game.

Q. All right. And that would have -- or should have led you to study and read the rules of the New Mexico Oil

Conservation Division, if your company was going to be doing any drilling in New Mexico? Would you agree?

A. Yes.

Q. Okay. And in particular, the area that we're concerned with is the Rhodes Gas Pool --

A. Uh-huh.

Q. -- correct?

A. Uh-huh.

Q. All right. Now, on the witness stand there are some exhibits there, Mr. Farris. The first one is an order of the Division in Case 7416, Order R-6891. It's Hartman Exhibit Number 1. Are you familiar with that order?

A. I believe I've read it, yes.

Q. When did you have occasion to read it?

A. I read this specific order when Mr. Hartman furnished it to us.

Q. When Mr. Hartman wrote you in late May of 1998?

A. I believe that's correct.

Q. And Mr. Hartman called to your attention that you were -- or Gruy was doing several things in regard to development of these wells that was not in compliance with the pool rules and the general rules of the Division; isn't that true?

A. Yes.

Q. And until that time you had not read this order?

A. That's correct.

Q. Now, you say that Mr. Hartman's letter -- By the way, just so the record is clear on that, I think maybe we have -- we may have a copy of Mr. Hartman's letter.

MR. CONDON: It's 22.

Q. (By Mr. Gallegos) Yeah, if you'd thumb through there, through the stack of exhibits next to your right hand, Mr. Farris, and find Exhibit Number 22.

A. Okay. I've got it, I've got it.

Q. Okay. For the record, is that a letter dated May 21, 1998, from Doyle Hartman addressed to Lori Wrotenbery, director of the --

A. Yes, it is.

Q. -- Division? And it copies Gruy Petroleum at the address in Irving, Texas?

A. Yes, it does.

Q. All right. And is this the letter that you referred to that first called to your attention certain regulatory requirements that pertain to the Rhodes Gas Pool?

A. It -- Yes, it called to my attention certain regulatory requirements, yes.

Q. There were some later letters --

A. Right.

Q. -- from Mr. Hartman, as well; isn't that true?

A. Uh-huh. Yes, it is.

Q. Okay. And I think you testified that until the letter of Mr. Hartman, you were not familiar with the memo of Mr. -- or Director LeMay, regarding one well on a 160-acre proration unit in a nonprorated pool?

A. That's correct.

Q. Okay. If you will look at Exhibit 4 and 5 in the stack there, have you seen those documents before?

A. Yes, I've seen these.

Q. All right. And is it a fact that you had never been aware of the contents of those memorandums of the Director of the OCD until after the letter of Doyle Hartman on May 21, 1998?

A. That is correct.

Q. But certainly, Mr. Farris, in undertaking the job that you were assigned to in November of 1997, you read the OCD rules, did you not?

A. Yes.

Q. Okay. Well, in the notebook that I called to the attention of Mr. Jessup before -- Do you have that notebook?

A. Yes.

Q. Okay. Well, take a look at Exhibit 8 of our exhibits in that stack where we've excerpted some of the rules.

A. I've got it.

Q. Okay, the second page of that exhibit quotes Division Rule 104.D.(3)?

A. Uh-huh.

Q. That rule specifies that "in Non-Prorated Gas Pools: Unless otherwise permitted by special pool rules or authorized after notice and hearing, only one (1) well per spacing unit is permitted in non-prorated pools."

A. Uh-huh.

Q. Correct?

A. That's correct.

Q. So that's essentially the same thing that the LeMay memos are saying, isn't that true?

A. That is correct.

Q. So just by simply reading the rules, you would have known that it is a clear rule that in a nonprorated pool, no more than one well is permitted?

A. That is correct, and that's why I made my calls to the OCD and discussed issues about simultaneous dedication.

Q. After you had placed more than well on proration units; isn't that true?

A. No, that was during the process.

Q. Okay.

A. So...

Q. Well, let's look at the process. And by the way, you're aware that Rule 104.C.(2) specifies that the proration unit for this particular pool is 160 acres?

A. Yes.

Q. And that the requirements for location are 660 feet to an outer boundary, 330 to an inner boundary, and no closer than 1320 feet to the nearest other well?

A. Yes.

Q. All right. If you would, Mr. Farris, let's start with our Exhibit 12. Would you find that, please?

A. Okay. Got it.

MR. GALLEGOS: All right. And it might help the discussion if we just put up on the board on display a blow-up we have of this area. Let me pull this around here.

Mr. Examiner, for the record, we're putting up on display here near the witness stand a blow-up which is designated as our Exhibit Number 39; it's marked on the back. And it shows a general -- generally about a six-section area that's the focus of this hearing.

Q. (By Mr. Gallegos) Do you recognize the proration units and the wells generally that are shown here, Mr. Farris?

A. Yes.

Q. All right. What I want to do is -- And have you

found Exhibit Number 12?

A. Yes, I have.

Q. All right. What I want to do is start with the activities that were up in the southwest quarter of Section 4 --

A. Uh-huh.

Q. -- and Exhibit Number 12 begins with a sundry notice signed by you and dated February 16, 1998, does it not? Is that correct? That's the first page?

A. Yes.

Q. All right. And that document was prepared by you?

A. Yes, it was.

Q. And what was the subject and purpose of that notice?

A. To notify the BLM what our intentions were on this well.

Q. All right. And what were your intentions?

A. Our intentions were to recomplete the well on the Yates formation.

Q. All right. That would be what you call your Rhodes Federal Unit Number 43?

A. Yes, sir.

Q. Okay, which is in the northwest of the southeast quarter?

A. Yes.

Q. All right. Is the second page of this exhibit the AFE for doing that work?

A. Yes.

Q. The rework on the 43?

A. Uh-huh.

Q. And it's dated March 4, 1998, is it not?

A. Yes.

Q. And it calls for an expenditure of just under $100,000 to rework this well?

A. Yes, it does.

Q. Basically, the objective on reworking the well was to come uphole, perforate in the Yates formation, Rhodes Gas Pool?

A. Yes, it was.

Q. And to stimulate the well by hydraulic fracture?

A. Yes.

Q. And is the next page an economic run on this Well 43, economic projection?

A. Yes, it is.

Q. And at a --

A. Okay, yes, it is.

Q. Okay. I would take it, although not produced in your document production, that you did an economic projection on all of these wells of a similar nature, did

you not, Mr. Farris?

A. I didn't.

Q. Well, somebody did?

A. Yes, somebody did at Gruy, yes.

Q. All right. And by the way, what did this show at 10-percent discount the present worth would be for this well?

A. We show that at -- Well, it says present worth of net before tax.

Q. Yes.

A. Well, I'm not exactly --

Q. It's in the red by $4600, isn't it?

A. Right. I don't...

Q. All right, let's go to the next page.

A. All right.

Q. This is a sundry notice on the BLM Form 3160-5, correct?

A. Yes, sir.

Q. That's a completion -- well-completion form?

A. It's 3160-3. No, wait a minute. You're right, 3160-5.

Q. And the -5 is to report completion of work, correct?

A. No. No, that's just a report of what you intend to do on this well, and what you did -- It's the last

sundry notice, yes.

Q. All right. Well, let's --

A. It's not the same as the well-completion form.

Q. All right. Well, let's put together the fact situation --

A. Okay.

Q. -- of what went on here, because you talked about learning about certain things during the process and calling Examiner Stogner and so forth.

In February, you give notice of your intention to recomplete this well, and in March the recompletion work is done.

A. Uh-huh.

Q. When that's undertaken, Rule 104.D.(3) is in effect, and you're aware of. That means one well on 160 acres, right?

A. Yes, unless you get approval for simultaneous dedication.

Q. So you hadn't even sought approval for simultaneous dedication --

A. That's correct.

Q. -- in March of 1998, had you?

A. That's correct.

Q. And there was already the RFU 41 well on that proration unit and producing --

A. That's correct.

Q. -- isn't that true?

And isn't this form to be filed within 30 days of the completion of the operations that were performed?

A. Yes, it is.

Q. And you filed it approximately -- what? Four months after the work was completed?

A. Yes.

Q. You filed it, let's see, about three weeks after you received the Hartman letter, the first Hartman letter, correct?

A. Yes.

Q. One other thing on the well completion report, on the Form 3160-4, is that the completion form?

A. Yes, sir.

Q. All right. Which you did not file until -- or did not complete, at least, and then file thereafter until August 25th, 1998 --

A. Yes, sir.

Q. -- approximately last week, basically. Right?

A. Yes, sir.

Q. And for the drilling of the well or the placement of this well, the decision to do the rework, you relied on an old log?

A. Yes, sir.

Q. And what log --

A. Well, the geologist relied on the old log.

Q. Okay. And what log do you refer to?

A. It's a log that Burlington had, I believe. It's not our log.

Q. It was -- About when was it run, do you know?

A. I don't know when it was run. A geologist would know.

Q. Okay. But no log was run on this well --

A. Not during --

Q. -- when the recompletion work was done?

A. Not during the recompletion process, no.

Q. And evidently, the last part of this exhibit reflects a circumstance where the BLM required you to make certain filing that had not been done?

A. Yes, sir.

Q. On this 43?

A. Yes, sir.

Q. You weren't aware that you were required to give the BLM notice when a well begins producing from a different formation which it had been originally completed?

A. Yes, I was aware of that before they sent the notice. I had meant to do that.

See, what happened in these wells is, we had several recompletion programs. Several of them were in the

Rhodes-Yates Unit. And at the time that I had done the sundry notices, I had done the sundry notice on the Rhodes Federal 43 the same way.

Early on, we were under the impression that the Rhodes-Yates-Seven Rivers-Queen was all one pool. And in the course of our efforts, we learned that the Queen is in the Langlie-Mattix and the Yates-Seven Rivers is in the Rhodes-Yates Pool. So in thinking back on what I had done, I knew that I had to submit corrective reports on the Rhodes Federal Unit 43, because we effectively did a plugback and didn't just recomplete the same pool.

Q. And that occurred in March?

A. That occurred in March, that is correct.

Q. And this dawned on you in August?

A. No, it didn't dawn on me in August. It had dawned on me in the course of trying to get ready for this hearing. In fact, we didn't just recomplete existing gas wells; we recompleted an oil well at that point in time, and therefore it was necessary to bring that into the simultaneous-dedication hearing.

Because if we had recompleted a well that had been temporarily abandoned in the gas pool that was already -- in the past had been concurrently producing, we shouldn't have to seek simultaneous dedication, because it was simultaneously dedicated before.

Q. Well, I'm a little confused. It was not a gas well before?

A. No. Yeah, I'm just talking in general. We had several recompletions, and at the time I was not aware that we were plugging back from the Queen to the Yates-Seven Rivers.

Q. Now you're talking specifically about --

A. -- the Rhodes Federal Unit 43.

Q. -- 43?

A. Uh-huh.

Q. Well, in February you prepared the notice that says you plan to recomplete the well in the Yates formation?

A. That's right.

Q. So you knew you were going to be completing it in a gas-producing formation?

A. That's right. Early on, Gruy was under the impression the Yates-Seven Rivers-Queen was the same pool.

Q. Well, but the fact -- That doesn't change the fact, Mr. Farris, that way back as far as February you already knew the 41 was producing?

A. No, that was TA'd, temporarily aban- -- Oh, yeah 41 was producing, you're right.

Q. The 41 was producing.

A. Uh-huh.

Q. The rules clearly provide that you can only have one producing well in the Rhodes Gas Pool on a proration unit, and you were going ahead here and recomplete to have a second well?

A. Right, the way we understood the rules was, you could apply for simultaneous dedication, that there was a process by which you could have more than one well per 160.

Q. But you -- So you think the way the rules work is, you just go ahead and do whatever you want to do, and then later on you apply?

A. No, that's not correct. Because in reading the memo, if you do not receive simultaneous-dedication approval, then you either plug a well or you shut one in and produce them on intervals.

So at the time we looked at this and basically read the memo optimistically and said, Let's proceed with two wells and see what happens in the hearing.

Q. Well, let's just take the language of the rule. Is there anything unclear about the words that say, "Unless otherwise permitted by special pool rules or authorized after notice and hearing, only one (1) well per spacing unit is permitted in non-prorated pools"?

A. No, there's nothing unclear about that.

Q. So you were just proceeding in violation of the rule in drilling the 43; isn't that right?

A. I don't think so. Based on the memo from Mr. LeMay, if you want to produce two wells you can't just produce them simul- -- you can't produce them at the same time unless you have approval for simultaneous dedication.

Q. When that requires application, notice and hearing --

A. Yes, it does.

Q. -- isn't that correct?

A. Yes, it does.

Q. And the 43 is on production, the 41 is on production?

A. Not now. The 43 and the 41 are shut in.

Q. Okay, because of this hearing?

A. Because we wanted to apply by the rules, yes. Abide by the rules.

Q. When did you shut them in, last week?

A. No. Sometime -- The 43 produced for a while, and again, that well snuck up on us because of the fact that we had been recompleting wells in the Yates -- re-frac'ing wells in the Yates, and then, like I said, it dawned on me that we had plugged back. So then we told our field to shut in the 43.

Q. Well --

A. I'd say in July, is when we did that.

Q. Exhibit 24, which I believe is a set of documents

which were just furnished to us yesterday --

A. Uh-huh.

Q. -- do you find that?

A. Yes, I do, right here.

Q. The second page of that reflects that the 43 was producing throughout June of 1998.

A. Right.

Q. So up to the time of the Application, you were producing that well?

A. That's correct.

Q. Okay. And what? On the advice of counsel you decided to -- recently to shut in the 43 --

A. No.

Q. -- and the 41?

A. No, that wasn't on the advice of counsel.

Q. Well, so you've got the -- what we've looked at so far, addressing the southwest quarter of Section 14, you've got two producing wells, the 41 and the 43 --

A. Yes.

Q. -- as of your recompletion work?

Exhibit Number 13, let me ask you if you recognize that, Mr. Ferris.

MR. CARR: What exhibit?

MR. GALLEGOS: Number 13, Hartman 13. It's a frac recommendation.

MR. CARR: Got it.

Q. (By Mr. Gallegos) Are you familiar with this document --

A. Well, I've seen it.

Q. -- or do you want to defer to somebody else?

A. I've seen it. I'm not extremely familiar with it, but --

Q. Well, what I thought was --

A. I might have -- I probably looked at this, or at least asked -- looked at our well-completion report, to get some of the information on the sundry notice.

Q. Well, on page 3, which is your production number 192 --

A. Yes, sir.

Q. -- it shows a well spacing of 80 acres?

A. Uh-huh.

Q. Did you have anything to do with that?

A. No.

Q. All right. That would be incorrect for a well in this Rhodes Gas Pool; isn't that correct?

A. Yes.

Q. Because you don't know where that came from?

A. Well, it came from this Halliburton document. I don't really know where that come from, no.

Q. Well, but --

A. Yeah.

Q. -- but the information to Halliburton, you don't know who imparted that to Halliburton?

A. No, I don't.

Q. Okay, let's turn to Exhibit Number 16.

A. Got it.

Q. All right. Now, remembering back to Exhibit Number 12, we know that by March 12th the Number 43 well had been recompleted in the Yates as a gas well?

A. Yes.

Q. Okay. And the 41 was already on that unit?

A. Yes, it was.

Q. All right. So in April of this year, then, you prepare, or somebody as a contractor for your company prepares an APD to drill the 415 well on that same 160 acres?

A. Yes, sir.

Q. Is that reflected by Exhibit 16?

A. Yes, sir.

Q. This is signed by, if I read it correctly, a Joe Janico; is that --

A. Janica, yes, sir.

Q. And is that the contract consultant in Hobbs that you said you employed?

A. Yes.

Q. Now, did you -- What role did you play in the work being done on permitting this? This would have all been supervised by you, wouldn't it, Mr. --

A. Right. Basically what we did is take the locations that our geologist had identified and furnish those to Mr. Janica.

Q. All right. And now you were proceeding -- or Gruy was proceeding in April to put a third well on this 160 acres, correct?

A. That's correct.

Q. And on the dedication plat, the second page, the Form C-102 --

A. Uh-huh.

Q. -- the other two existing wells are not shown on that plat, are they?

A. That is correct.

Q. Isn't the practice to reflect on the plat other wells in other locations?

A. Should be, yes.

Q. Should be on there, shouldn't it?

A. Uh-huh.

Q. And this well, this 415 well, also should be no less than 1320 feet from any existing well on that quarter section?

A. Yes.

Q. Correct?

A. Yes. We may have amended this later. I know we amended several permits, but -- to reflect the existing wells.

Q. Okay, the --

A. It's not on this one, no. I don't know.

Q. Well, I haven't seen it --

A. Okay.

Q. -- if it's been furnished to us.

And then in June, you do report within 30 days that the work was done to drill and complete this well in mid-June of this year?

A. Yes, sir.

Q. And this is after you had received at least two letters from Mr. Hartman directing your attention to the pool rules. He said that no more than one well was permitted unless approved by -- after application and hearing; isn't that correct?

A. Yes.

Q. And this well was put on production, was it not?

A. Yes, sir, it was.

Q. And back to Exhibit 24 that I called your attention to earlier, it would tell us if this well produced beginning on August 5th and right on up through the end of the month of August?

A. Yes, sir.

Q. And it's still producing, I take it?

A. Yes, sir.

Q. Is the election of Gruy to plug and abandon the 41 and the 43 and to produce the 415?

A. No.

Q. You want to produce all three of them?

A. Simultaneously, yes.

Q. Produce all three simultaneously?

A. Yes.

Q. And drill a fourth well on the unit? Is that planned?

A. We don't have any plans to drill a well up there now.

Q. If I told you that the 415 is located 1043 feet from the RFU Number 41, do you have any information to the contrary?

A. No, I don't have any information in front of me to the contrary, no.

Q. All right. Which would be a violation of 250, 300 feet from that 1320-foot rule, do you agree?

A. It is, yes.

Q. All right. Let's focus, then, on what your activities were on Section 16 here earlier this year, Mr. Farris. And by the way, just -- I think that -- before --

The 415 was completed before the Application was filed in this proceeding?

A. Application for simultaneous dedication?

Q. Yeah, the Applications that are being heard here today.

A. Yes.

Q. Okay, let's turn our focus to the southwest -- excuse me, the northwest of Section 16.

A. Okay.

Q. And I have an Exhibit 17 that I'd like to draw your attention to. This exhibit, if you take a minute to look it over, I think, contains the application that you were talking about where you had an unorthodox location and an orthodox location filed, and then you ended up drilling it as -- you meant to drill on the orthodox but drilled on the unorthodox.

A. Is that 17A?

Q. Yes, and it's got -- It's a multi-page exhibit.

A. Okay.

Q. 17A and a -B and a -C.

A. D? Okay.

Q. Well, I think -D was the same as -C when I looked at them.

A. Is it?

Q. You can throw -D away.

A. Okay.

Q. Take a minute. I just want to make sure you're familiar with what we have here so that we can go through chronologically what occurred.

A. Okay.

Q. All right. Let's go back in time to June of this year.

A. Okay.

Q. And as you look at this 160-acre proration unit, there are already two producing wells in place on that unit?

A. Yes.

Q. The 18 -- I think they're called the Rhodes State Com 18 and Rhodes State Com 19.

A. Yes.

Q. Do you agree?

A. Uh-huh.

Q. And so you've already got two wells producing there?

A. Uh-huh.

Q. All right. And now you are proceeding to take steps to drill a third well?

A. Yes.

Q. And you haven't applied to the OCD for any kind of permission --

A. For the --

Q. -- to do this?

A. For the hearing, you're correct.

Q. All right. Now, 17A is an APD to drill the Number 5 well in that quarter section, and it shows handwritten in handwriting, and it was filed on June 3rd --

A. Uh-huh.

Q. -- and approved June 9th?

A. Uh-huh.

Q. All right. Now, if you turn to the plat, second page of the plat, that does show the 18 and the 19 wells, correct?

A. Yes, it does.

Q. And it is an orthodox location?

A. Yes, it is.

Q. All right. So that was guided by your geologist as the location?

A. No.

Q. No, that was a mistake?

A. The 660 and 1980?

Q. The location shown on this APD prepared on June 3rd, 1998?

A. Right, it was moved to that location to make it a legal location, so that our geologist did say it was okay to move it there, yes.

Q. Well, wait a minute, you say moved. Isn't this the first APD that was prepared? If you look at 17B, it, under your signature, shows a date of June 26th, 1998?

A. That's correct, that's the amended report.

Q. And it's for the unorthodox location?

A. That's correct. That was in response to amend the plat, because we had drilled the well in the wrong location.

Q. Okay, let me see if I understand, then. You filed an APD for locating the well 660 feet from the north, you went out and drilled it 330 feet from the north, and then prepared what is shown as Exhibit 17B?

A. That's correct.

Q. Is that the sequence?

A. That's correct. Actually, the well was staked at the 330-foot location. That was the original location that our geologist had picked.

Q. When was it staked at that location?

A. It was staked prior to the staking of the 660 and the 1980.

Q. Well, it was staked prior to June 3rd at the unorthodox location, wasn't it?

A. Yes.

Q. So you had staked it at an unorthodox location. Then you came in and filed an APD at an orthodox

location --

A. Uh-huh.

Q. -- and then you went out and drilled the well at an unorthodox location?

A. That's correct. We drilled it at the first staking instead of the second staking.

Q. But when you filed for the APD, you knew it was staked at an unorthodox location, but didn't reflect that on the APD; isn't that what happened?

A. When we filed the APD, we filed it at an orthodox location, because we didn't want to file it at the unorthodox location, yes.

Q. Because -- But you had staked at the unorthodox location and you drilled the well at the unorthodox location?

A. That's right, we had staked it at the unorthodox location because that was the original location that our geologist had picked.

Q. Okay. But you didn't want to reveal to the Division that you were going to drill the well at the unorthodox location, so you file an APD showing it at an orthodox location?

A. No, that's not correct. The reason we filed the APD at the orthodox location is because we intended to drill it there.

Q. Okay, and left it staked at the unorthodox location, and that's where the rig went --

A. Well --

Q. -- and that's where the well was drilled?

A. -- yeah, the surveyors that we had contracted had left it staked there, yes.

Q. On 17B, I'm curious here. Did you have the Division Office in Hobbs backdate the approval? Because it shows an approval date of June 8th, even though evidently submitted on June 26th.

A. I didn't do that, no. I mean, I didn't talk with them and ask them to do that, no.

Q. All right. So the result is, you've got three producing wells on that 160 acres in Section 16?

A. That is correct.

Q. And the Number 5 well that we've been talking about at the unorthodox location, Exhibit Number 24, shows it was producing through the month of August, I guess beginning August 13th?

A. Uh-huh.

Q. And it's still producing?

A. Right. We're attempting to clean that well up and get more production from it.

Q. Okay. And Gruy is unwilling to select one well to be the well to which it dedicates its proration unit and

shut in the other two wells?

A. Well, no, as soon as we get through working on the Rhodes State Com 5 and clean it up, we'll shut that in until -- pending this hearing. The other two wells are producing concurrently all along, the 18 and the 19.

Q. Well, I'm not talking about pending the hearing, but I'm talking about, is Gruy willing to say, We'll select our new well, the Number 5, which is a newly drilled and completed well, to be the well to which we dedicate this proration unit, and not produce from the other two wells?

A. Shut them in, you mean?

Q. Yes, not produce from them.

A. If that's the result of this hearing, yes. We would rather get approval to simultaneously dedicate them --

Q. So you want

A. -- share the allowable.

Q. So you want three? This is a nonprorated pool, Mr. --

A. Right.

Q. -- Farris. You understand that for the very reason that it's nonprorated, that the way correlative rights are protected is because of spacing and the limitation of wells that can be drilled on a spacing unit? Are you aware of that?

A. I'm aware of that.

Q. All right. But you want to produce -- Gruy wants to produce from all three wells on this 160 acres in Section 16? That's its position?

A. We'd like to get approval to do that, yes.

Q. Will you address Exhibit Number 18 with me, Mr. Ferris?

A. Okay. Is that the 159?

Q. That is the 159 --

A. Okay.

Q. -- and this is an Application to drill the 159 that was prepared on April 7, 1998, by Mr. Janica --

A. Yes, sir.

Q. -- your contract consultant, correct?

A. Yes, sir.

Q. And this involves the 160 acres in Sections 15 and Section 10 that's shown in green up on the demonstrative exhibit near you?

A. Yes, sir.

Q. Agreed? All right.

Now, when this was done, Mr. Farris, you, your company, were aware that that 160 acres already had the Gregory B 2 as a producing well on it?

A. Yes.

Q. Isn't that true?

A. Yes.

Q. Okay. But you planned to drill the 159 upon permitting, correct?

A. Yes.

Q. Okay. On the location plat, can you explain why the 160-acre proration unit is not depicted and why you're referring to this as a 120-acre unit?

A. Yes, this is the old permit. There should be a new one that we amended that has the true dedication on it.

Q. That has the what?

A. Should have the true dedication on it.

Q. All right.

A. It's actually a combination of these two plats that you have in this exhibit.

Q. All right. Well, speaking of that, in Exhibit 18 the -- pages 3 and 4 are APD of the same date for your Well Number 105 --

A. The 103, yes, sir --

Q. -- do you see that? I'm sorry, 103.

A. Yes, sir.

Q. 103. It's a little hard to read that.

A. Uh-huh.

Q. Okay. And the dedication plat there presumes to be a 40-acre spacing unit, which is really part of this 160 unit that's in the southeast of the southeast of 10?

A. That is correct.

Q. That's not correct, is it?

A. That's not correct, right.

Q. But what it does reflect is that in April, Gruy was planning to drill two more wells on this 160-acre unit, which already contained the Gregory B 2, a producing gas well, correct?

A. That's correct. There should be an amended plat for that one, by the way.

Q. Okay. Well, let's take a look at Exhibit 20.

A. Okay.

Q. Does that reflect the amended plat for the well 159 and the 103?

A. Yes, sir.

Q. Okay. And these wells, if drilled, would constitute two additional wells and make a total of three producing gas wells on this 160-acre plat --

A. Yes, sir.

Q. -- of the proration unit, correct?

A. Yes, sir.

Q. And you would have proceeded to drill these wells, had not Mr. Hartman began writing you and calling to your attention the violation of the rules that was being conducted by Gruy; isn't that right?

A. Yes, we actually would have continued drilling

these wells if you wanted to get simultaneous dedication, but we moved away to avoid an offset protest.

Q. But what we're talking about, though, is an overall program. We're not talking -- Really, Gruy is not just addressing wells in Section 4 and Section 16 as part of its focus in this Rhodes Gas Pool; isn't that true?

A. That is correct.

Q. You have a -- You entered into a contract with Key Energy Drilling in June of this year to drill -- What was it, 13 wells?

A. Something like that. Do you have that -- What exhibit --

Q. Take a look at Exhibit 15 and see if that reflects that contract. Is that the contract between Gruy and Key Energy Drilling?

A. Yes, it is.

Q. Footage drilling contract?

A. Yes, sir.

Q. And is Exhibit C, the last page of this document, a list of the multi-well package that's to be covered by this drilling contract?

A. Yes. There's a couple additional wells, or one additional well, that's not on here.

Q. Okay, there are 13 wells on here. What else is under this contract?

A. We drilled with the Elliott Federal Number 6 well in Section 17 as an oil well, so that's not on here.

Q. Additional gas wells?

A. No, the Elliott Federal 6 was a Morrow well.

Q. No, but I'm asking, are there additional gas wells?

A. No, not to my knowledge.

Q. The first two wells listed here are the 103 and the 159?

A. That is correct.

Q. And those are on the 160-acre proration unit directly offsetting the Hartman base lease?

A. That is correct.

Q. And isn't it true that after Mr. Hartman wrote you, you wrote him, I believe, in June, saying that Gruy intended to proceed to drill those wells?

A. I wrote him notification that we had applied for permits for two and three wells on 160-acre proration unit, yes, and I believe an unorthodox location in the 159.

Q. How many of these wells here have been drilled, Mr. Farris, that we have not already addressed? We've already talked about the 415, the 5, Rhodes State Com 5, those two new wells --

A. Uh-huh.

Q. -- Section 4 and Section 16.

A. Uh-huh.

Q. What other ones have you gone ahead and drilled?

A. We drilled the Rhodes State 6 well, Rhodes State Com. We originally permitted that well, I believe, as a gas well, and we repermitted it as an oil well. So its official name is Rhodes State 6 now. We've drilled that. And that will be completed at some point in time as an oil well.

Q. This is the one in Section 16, at the bottom of the list?

A. Yes, sir.

Q. All right. What other...

A. Rhodes State Com 5, Rhodes Federal Unit 415, Rhodes State 6 are the only wells we've actually drilled. We drilled the Elliott Federal 6 in Section 17 as an oil well. It's not on here.

Q. Is it true, Mr. Farris, that every one of these wells that's called for here would be either the second or the third well on the proration unit where it would be located?

A. That's correct. I believe the Cagle C 5 is in a different pool. It's not in the Rhodes Pool. The Cagle C 5 I think is in the Jalmat Pool, Section 3.

But as far as the Rhodes Pool goes, yes. There's some confusion on our part about the Rhodes Federal Unit

267 as to whether or not that is a gas well in the oil pool, as to whether or not that wouldn't hold 40 acres. We've permitted it as a 160, and we need to seek some sort of advice from the Commission as to whether we could drill that well on a 40-acre spacing, since that's in the oil pool. But all of the others are typically on 160s or nonstandards.

The Rhodes Federal Unit 171 is a re-entry of an oil well, and what we do on that -- It's kind of landlocked with nonstandard proration units, and it's got 80 acres just sitting there. We would seek a nonstandard proration unit for that.

So to answer your question, the 103, 159 would be multiple wells. The 415 and Rhodes Federal Unit 55, the 227, the 226 -- The 267, if it's 160-acre spacing, would be multiple wells on there. But like I said, there's evidence to indicate that gas wells in the oil pool hold 40 acres.

Q. I'm sorry, say that again?

A. There's evidence in the file -- As a matter of fact, I asked the OCD in Hobbs if gas wells in the oil pool would hold 40 acres rather than 160.

Q. You're talking about the Rhodes Oil Pool to the south of this area?

A. Yes, sir, and we did permit that well on 160 acres, not really completely understanding the pool rules.

Q. Is it the plan and objective of Gruy to make an application to change the pool rules --

A. No.

Q. -- for the Rhodes Gas Pool?

A. No. The one in Section 25 too would not be a multiple well. There are no wells in Section 25 at this point in time.

Q. Which one?

A. The Rhodes B Federal Number 1.

Q. That's not a multiple?

A. That's not a multiple. That might even be a wildcat well. I'm not sure what pool it's in.

Q. Is the location of the 103 on this proration unit offsetting to the east, the Hartman base lease, is that at a standard location?

A. It is now, yes, sir. It wasn't when we originally permitted it.

Q. It shows it at 760. What was it --

A. You must have the original one. We've moved it to 660, 660.

Q. Well, I'm looking at 20, which you said were the amended plats that corrected everything.

A. Is this --

Q. Second page of --

A. Okay.

Q. -- Exhibit 20.

A. Okay, are you saying 159 or 103?

Q. 103. It shows 760, doesn't it?

A. Yeah, it shows 760.

Q. That's wrong?

A. That's what we permitted it, so it's not wrong.

Q. But it should be at 660?

A. Yeah, my recollection was that we had moved that to 660 and 660, but it says 760 there. You know, I don't recall hearing from a field superintendent as to a reason why that would have to be moved over 100 feet. I certainly can confirm that.

Q. To be clear on what your company is seeking here, the director's memo of July, 1988, provides that applications for additional wells on existing proration units will be approved only -- and that word is underlined -- on the understanding that upon completion of the well, the operator shall elect which well will be produced and which will be abandoned.

And you are not seeking relief under that rule? You're not coming in here and saying, We've got multiple wells but we're willing to produce only one of them?

A. No.

Q. Okay. And there is a clarification in August of 1990 of that memo, which indicates that under certain

circumstance and a certain showing being made, two wells may be produced alternatingly, that is, not simultaneously, but one for a period and one for another period while the other is shut in. And you are not seeking relief under that provision either?

A. We would rather not do that either.

Q. Okay.

A. We're prepared to do that if we have to.

MR. GALLEGOS: That completes my questions.

EXAMINER STOGNER: Thank you, Mr. Gallegos.

Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Stogner.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Farris, you told us you obtained your bachelor of science degree from New Mexico State?

A. Yes, sir.

Q. In what discipline, sir?

A. Education, biology and chemistry.

Q. You first started working for Gruy when?

A. November of 1997.

Q. Okay. When we look at the contract Mr. Gallegos was discussing with you, this drilling contract -- it's Hartman Exhibit 15, Exhibit C attached to that contract --

A. Yes, sir.

Q. -- help me go down the list so that I'm clear on what you have testified to.

A. Okay.

Q. When we go down the list, indicate for me in the order listed which wells have actually been reworked, drilled or completed.

A. Okay. 415. The 103 has not been drilled.

Q. Okay. Let me ask you this: 103, has that been permitted?

A. Yes.

Q. Okay, not drilled but permitted?

A. Yes.

Q. 159?

A. Not drilled but permitted.

Q. Okay.

A. 415 permitted and drilled.

Q. Okay.

A. 55 permitted and not drilled.

Q. Okay.

A. 227 permitted and not drilled.

Q. Okay.

A. 226 permitted and not drilled.

Q. Okay.

A. 267 permitted and not drilled.

171, the permit is in the process. We have not

officially sought approval of the nonstandard proration unit.

Rhodes B Federal Number 1, not permitted, not drilled.

Cagle C 5, permitted, I believe, in the Rhodes-Yates-Pool, Rhodes-Yates-Seven Rivers. It looks like we need to repermit that well in the Jalmat Pool, based on the OCD pool map that we received.

The Rhodes State Com 6 -- or Rhodes State Number 6, permitted as an oil well and drilled.

Q. Okay.

A. Another one that's on there, Elliott Federal Number 6 in Section 17, permitted as an oil well and drilled.

On other property that's not on here, and I'm not sure that Key did it or not -- it may have been added to the contract -- is Rhodes Federal Unit Number 86, which is a re-entry of an H.G. Moberly Texaco-operated plugged and abandoned well. We permitted that as the gas well. It looks like now it's going to be an oil well.

Q. Does that complete the wells that are in Gruy's increased density program?

A. At this time, yes.

Q. What does "at this time" mean?

A. Well, if our geologist identifies another

location.

Q. Do you have any plans or proposals for drilling more increased-density wells in Section 8?

A. No.

Q. The first well under this program was the 43 well? Is that the first well you've permitted?

A. Oh, okay, yeah, the first well was recompleted -- a recompletion. And essentially, that well had already been temporarily abandoned by Burlington. A cast-iron bridge plug was set and they set cement on top of it, so all we really did in that well was just clean out the hole and then perf the Yates and Seven Rivers.

Q. So when we look at the southwest quarter of 4, am I correct in understanding that the first of this activity for increased density in the gas pool is going to be the 43 well, which was a recompletion?

A. Yes, sir.

Q. And that permit was filed, I think, in February of 1998?

A. Yes, sir.

Q. When we look at the southwest quarter of 4, at your tabulation on Exhibit Number 2, you summarize for us the status of the three wells in that spacing unit?

A. Our exhibit, Gruy's exhibit?

Q. Yes, sir, Number 2.

A. Okay.

Q. And if you'll look at the first entry it shows the status. "F", I assume, is flowing?

A. Yes, sir.

Q. And "SI" is shut-in?

A. Yes, sir.

Q. The current status of that spacing unit with regard to these three wells is what, sir? Do you have one flowing well and two shut-in wells?

A. One flowing well and two shut-in wells at this point in time, yes.

Q. There's a completion date associated with each of those three wells. Do you see that? Just after the status it says "Completion Date"?

A. Yes, I do.

Q. All right. The simultaneous dedication of the 43 well is the subject of one of the cases before Examiner Stogner this morning; is that not true?

A. That is true.

Q. Is there any time after the completion of that well in which it was produced concurrently with either the 41 or the 415?

A. Yes, it was.

Q. And for what period of time and at what rates?

A. Well, you can see over to the right, you see the

cumulative production on it?

Q. Yes, sir.

A. It's 8000 MCF. At about that rate.

Q. All right. So that cumulative gas production shown for 43 would be attributable to a period in which it would be simultaneously produced with the 415?

A. Well --

Q. Or would it be the 41?

A. I need to look at -- Let me look at Mr. Gallegos's exhibit and see if he has it here. Yeah, actually, you know, the exhibit that we have there shows it producing for the entire month of June. We shut it down sometime in July, so there had to be a period of time when it probably was producing simultaneously with the 415, although not entirely.

Q. Is it fair to assume that the total cumulative gas production from the 43 well would have been gas produced during periods of time in which either the 41 well or the 415 was also producing?

A. The entire?

Q. Yes, sir.

A. I wouldn't say the entire. Most of it, probably.

Q. Can you calculate from your records, either before or after the hearing, what that total volume would be?

A. Yeah, we could do that.

Q. All right. And that would be a volume that's produced without authority under the simultaneous-dedication rules?

A. That is correct.

Q. When we look at the northwest quarter of 16, and we're looking at the status of that spacing unit, we've got Well 18 and 19 that are existing --

A. Uh-huh.

Q. -- and then the Well 5 has been completed but apparently not produced?

A. No, it's producing right now. They're testing it and, I guess, trying to determine what we're going to do with it, whether or not we're going to go clean it out, clean out the perfs.

Q. Okay. So any production that's occurring from that well is associated with testing it?

A. Yes.

Q. How many conversations did you have with Mr. Stogner concerning the rules and regulations for this pool and the topic of simultaneous dedication?

A. To the best of my recollection, I had one general discussion with him on simultaneous dedication.

Q. Were there general or specific discussions on more than one occasion?

A. Not specific, general.

Q. I'm just talking about total number of contacts with Mr. Stogner.

A. I've talked with him at least two or three times.

Q. About this subject?

A. Not necessarily about this subject, no.

Q. I'm focused on this subject.

A. Yeah. I know one for sure, maybe one more.

Q. To the best of your recollection, when did the first of those occasions occur?

A. That occurred prior to us actually drilling any wells.

Q. Would it predate the recompletion of the 43 well?

A. No.

Q. So you've recompleted the 43 well, and that occurred in when, sir?

A. March of 1998, I believe.

Q. All right. So your first conversation with Mr. Stogner is after the completion of the 43 well but before any of the other work is done?

A. Yes.

Q. And Mr. Stogner advised you that Gruy assumed the risk of engaging in this work prior to obtaining Division approval for simultaneous dedication?

A. Not really.

Q. He did not tell you that?

A. No, we talked in general about the process of putting more than one well on a 160.

Q. Did I misunderstand your testimony in response to Mr. Carr that Mr. Stogner, in fact, had told you that you were assuming the risk?

A. That was on the Rhodes State Com 5. That's a different discussion.

Q. You could not relate the discussion on that well to the general topic of increased density for gas wells in the pool?

A. Not at the time I talked to Mr. Stogner early in 1998.

Q. All right, let's go back to the Number 5 well then. When did Mr. Stogner first advise you that Gruy was assuming the risk of this activity being conducted prior to Division approval?

A. The date that we spud the well.

Q. Which one?

A. The Rhodes State Com 5.

Q. Five, and what date is that?

A. Is it here somewhere? I'm not exactly sure.

MR. GALLEGOS: Yeah, 6-17, June 17th.

THE WITNESS: June -- ?

MR. GALLEGOS: June 17th.

THE WITNESS: Okay.

Q. (By Mr. Kellahin) So at that time, then, it was clear to you in your understanding of the conversation with Mr. Stogner that Gruy was assuming the risk?

A. Assuming the risk of drilling the well, yes.

Q. Explain to me what risk you thought you were assuming?

A. We were drilling the well with the understanding that we would have to go to hearing to get approval for simultaneous dedication and unorthodox location.

Q. Did you understand that the risk you were assuming is that the Division could and did have the authority to deny you the opportunity to produce that well, even though you had expended money to drill it?

A. Yes.

Q. So that's part of the risk that you knew you were assuming?

A. Yes. We were willing to take the risk to drill these two wells, to see if we could get simultaneous dedication approval.

Q. Are you willing to assume the risk of continuing this increased-density drilling program without prior approval of simultaneous dedication before you do the work?

A. I'm not qualified -- We would not continue the infill drilling program unless we were sure that we could

get simultaneous dedication.

Q. That's what I'm asking.

A. Right.

Q. So at the current status, despite the fact that you have wells permitted, it is Gruy's intent not to go forward with that actual work until you have the appropriate order in place allowing simultaneous dedication?

A. That is correct, we want to abide by the Commission rules wherever we've been remiss, yes.

Q. Is it your position that the Division, by approving these workovers or applications to permit to drill, are somehow responsible for failing to tell you or inform you about simultaneous dedication?

A. No.

Q. You're not suggesting that the Division should have alerted you to this issue?

A. No.

Q. Why did Gruy choose to go ahead with the wells that they did drill, without actually stopping and waiting for a hearing to get this thing cleared up?

A. I guess we read the memo from Mr. LeMay and the rules optimistically. It was our impression that there was a procedural method by which you could produce the wells simultaneously, and that was the hearing.

So that is why we proceeded with those two wells in the locations that we proceeded with them. We wanted to limit our offset exposure, which is why we chose the 415 Gruy State Com 5. We wanted to make notification and set up the hearing for simultaneous dedication and develop data, basically, to try to prove our case that you couldn't adequately drain this 160 with one well.

Q. And your choice of procedure is to do this on a well-specific spacing unit basis, as opposed to asking the Division to call a hearing to discuss this general topic as it might affect all spacing units in the gas pool?

A. That's our choice of procedure, yes, at this time.

Q. When you contacted Mr. Janica to help you permit these wells --

A. Uh-huh.

Q. -- did you advise him that you were attempting to permit gas wells?

A. Yes.

Q. And the C-102s attached to the APDs all reflect an intention on Gruy's part to drill and permit gas wells?

A. Yes.

MR. KELLAHIN: No further questions.

EXAMINER STOGNER: Any redirect?

MR. CARR: No.

MR. GALLEGOS: Mr. Examiner, might I have just a few clarifying questions?

EXAMINER STOGNER: Okay.

FURTHER EXAMINATION

BY MR. GALLEGOS:

Q. If you covered this, Mr. Farris, and I just missed it, I apologize, but --

A. Okay.

Q. -- as Mr. Kellahin went over this well list under the drilling contract with you --

A. Yes, sir.

Q. -- what I wanted to know is, are there additional plans for reworking the existing wells that would result in a multiple well in a proration unit that are not reflected as part of this drilling package?

A. I don't believe there are any more. There may -- Yes, there's one up in the northwest quarter of Section 4 --

Q. Okay, and that would --

A. -- Farnsworth 41, I do believe. I believe that was an oil well too, so we'll have to go through the process of, you know, filing the proper permission to plug that one back.

Now, I had discussions with people at the OCD on the proration --

Q. I'm sorry, what section is that in?

A. It's in Section 4.

Q. Northwest of 4?

A. Yes, sir. I'm not exactly sure which one of those wells it is. It's probably that -- Do you see that TA'd one right there?

Q. Yes, sir, and that would be a similar procedure to what you did with the 43 --

A. It may be. I'll tell you why I say that, because I had discussions with somebody at the OCD, and they had indicated to me -- I believe at the Hobbs office -- that there's overlapping dedications in that part of the northwest quarter. Specifically, the northwest quarter has a 160. And I'm not exactly sure what the dedication is for the northeast quarter, but it's a nonstandard. It may encompass more than your typical 160.

So right there we have to do some work to amend the well in the northwest quarter, which is a gas well, if we have overlapping dedications.

So I'm not real sure how we might approach that. I mean, we may ask to bust up that large proration unit, and maybe make it two nonstandards. I don't know.

Q. If it's presently 160 acres?

A. I don't think it is. I think it's more than that, but I'm not real sure what it is. It may be -- See,

my -- and this is just, you know, discussions with the OCD. My recollection is, this is a 160 here --

EXAMINER STOGNER: Hold it, this is not going to come out on the record.

THE WITNESS: You need to start describing things --

THE WITNESS: All right.

EXAMINER STOGNER: -- instead of pointing and saying "here".

Q. (By Mr. Gallegos) But go ahead and point out, but tell us verbally what you're --

A. Okay. The northwest quarter is currently on the records with having a proration unit of 160. Burlington drilled this well, not exactly sure which one it is.

Q. Which would be in the northwest of the northwest?

A. Northwest of the northwest quarter, yes, sir.

Q. And you're pointing to Section 4 --

A. Section 4.

Q. -- on Exhibit 39?

A. On Exhibit 39.

My discussions with somebody in the OCD a few weeks ago -- I believe it was Linda Sharpe or somebody like that -- is that this proration unit here covers the east half of the northwest quarter, and it goes on and covers all of the northeast quarter and a portion of the southeast

quarter, which would mean that on their records there's an overlap there.

So when I say I'm not exactly sure how we would approach approval of the rework of that Farnsworth 41, it's obvious we're going to have to do something to dissolve the 160 that the well is in up there, possibly seek approval for a nonstandard proration unit for it, which would solve the problem of that one, but I'm not sure what it does to the other 200 or 300 spacing units.

Q. And you have all the rights -- Gruy has all of the gas rights in Section 4?

A. Yes, sir.

Q. Okay. So what I was trying to get at is, where else are we going to be faced with potentially multiple wells on the spacing unit besides what's listed here, and this one may or may not --

A. Right, that's the only one I'm aware of, other than these wells here.

Q. Now, isn't it true, Mr. Farris, that Burlington did not own and Gruy did not -- does not therefore own, any oil rights in this area?

A. Oh, yeah, we do own some oil rights in certain quarter sections and -- It's spattering oil rights throughout there, yes.

Q. Well, basically, this area back in time was one

in which the gas rights were set aside to El Paso Natural Gas Company, and the oil rights retained by other owners, Olson, Texaco, and so forth?

A. Primarily, that's the way it is, yes.

Q. Primarily. And then, of course, the progeny of your interest is from El Paso --

A. Uh-huh.

Q. -- through Meridian, Burlington and to you?

A. Right.

Q. With primarily gas rights?

A. Primarily gas rights, that's correct.

Q. Just one other question. On the 43, production on the 43 and on the 5, have you filed C-115s?

A. Yes, sir.

Q. All right, and those are --

A. The Rhodes State Com 5, or the 415 and --

Q. The 43, which you reworked and put on production --

A. Okay, yes.

Q. -- and presumably you're filing C-115s for the ones that have been producing all along --

A. Yes, sir.

Q. -- like the 41 and the State Com 18 and 19, correct?

A. Uh-huh. Yes, that's correct.

MR. GALLEGOS: All right. Thank you.

THE WITNESS: Okay.

MR. CARR: No redirect.

EXAMINATION

BY EXAMINER STOGNER:

Q. One quick question. In the northwest quarter of Section 16, what is the completion date, or when did the two wells that were producing in that quarter section and holding that acreage when you bought it -- do you know when the completion dates on those were?

A. Okay, it should be on this schedule. October, 1973.

Q. For both wells?

A. Yes, sir.

Q. And was that prior to the memorandums that have been referenced today, limiting, one well?

A. Yes, sir, prior to that, 1980.

EXAMINER STOGNER: Any other questions.

MR. CARR: No questions.

EXAMINER STOGNER: You may be excused. Let's take a 20-minute recess.

MR. GALLEGOS: Could I move the admission of some exhibits? Or we can wait, we can wait.

EXAMINER STOGNER: Let's wait.

MR. GALLEGOS: All right.

EXAMINER STOGNER: Take a 20-minute recess.

(Thereupon, a recess was taken at 10:30 a.m.)

(The following proceedings had at 11:05 a.m.)

EXAMINER STOGNER: Let's go back on the record.

Mr. Carr?

I'm sorry, I think you had something at this time, Mr. Gallegos.

MR. GALLEGOS: Yes, thank you, Mr. Examiner Stogner.

I would like to move admission of the following exhibits which were identified by witness Farris. Those are Hartman's 4, 5, 12, 13, 15, 16, 17, 18, 20 and 22. I'd like to move the admission of those, and I ask the Examiner to take administrative notice of Exhibits 1, 2, 3 and 6, which are orders of the Division or memorandum of the Director.

MR. CARR: We have no objection.

EXAMINER STOGNER: Okay, the aforementioned exhibits will be admitted into evidence.

And I'll take administrative notice of the reference of the previous orders mentioned in Exhibits 1, 2, 3 and 6, those being memorandums and rules, I believe.

Mr. Carr?

MR. CARR: May it please the Examiner, at this time we would call H.C. Lee.

H.C. LEE,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. My full name is Hen-Chen Lee. How you spell is H-e-n hyphen C-h-e-n, is my first name. Last name is Lee. Everybody for short just call me H.C. Lee.

Q. Where do you reside?

A. I reside Arlington, Texas.

Q. And by whom are you employed?

A. Currently I'm employed by Gruy Petroleum Management Company.

Q. And what is your position with Gruy?

A. I'm the person review Gruy's newest acquisition, which Burlington Property in New Mexico tried to evaluate and give a recommendation to Gruy Petroleum for their New Mexico properties.

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

A. Yes, sir, this would be a long time ago, way back in late 1983 or early 1984.

Q. Would you summarize your educational background for Mr. Stogner?

A. Yes, sir. I got my master's degree in science, geology, from University of Arkansas in 1980.

Q. And after that, did you --

A. After that one, I continued to go to University of Texas in Arlington and the Midwestern State University, Wichita Fall, to study the petroleum engineering-relate -- the courses.

And also I go to different short courses, for example, offered by Society of Petroleum Engineering, try to get my little bit better knowledge in the petroleum engineering area.

Q. Could you review your work experience in the petroleum industry?

A. Yes, sir. I started work for a company called Echo Production, E-c-h-o, from 1980 through the end of 1984. After that one I worked for a company called Henry Energy Corporation from early 1985 through late 1989. Then from 1990 I worked for a company called CWF Energy, to the beginning of 1995. Then through my personal reasons I choose to resign and become an independent contractor since early 1995.

Then May the 1st, 1997, I go to Gruy Petroleum, start helping to evaluate their New Mexico properties. During all those more than 18 years is, majority, to help company to evaluate a producing field, a reservoir for the

geological and engineering side, to see how we can either enhance or drilling more wells or work over, or the secondary methods to enhance the production.

Q. And in this work you evaluate the geologic -- the geology of the reservoir?

A. Yes, sir.

Q. And then you apply engineering principles to do what?

A. To do calculated drainage patterns, what's the original oil or gas in place, what's been drained, what's the percentage maybe still remaining, and combine two ideas both together, then give recommendation to company.

Q. Are you familiar with the Applications filed in each of these cases on behalf of Gruy Petroleum Management Company?

A. Yes, I do.

Q. Have you made a technical study of the Gruy-owned properties in the Rhodes Gas Pool to determine what additional drilling, if any, is necessary to produce the remaining reserves in the reservoir?

A. Yes, sir.

Q. For the new Rhodes Pool wells that are the subject of each of these consolidated Applications, these new wells that were drilled or recompleted, was this activity undertaken based on your study of the reservoir

and upon your recommendations?

A. That's correct, sir.

Q. Are you prepared to share the results of your study with Mr. Stogner?

A. Yes, sir, I am.

MR. CARR: We would tender Mr. Lee as an expert witness in petroleum geology and engineering.

EXAMINER STOGNER: Any objection.

MR. GALLEGOS: No objection.

EXAMINER STOGNER: Mr. Lee is so qualified.

Q. (By Mr. Carr) Mr. Lee, let's go first to what has been marked as Gruy Exhibit Number 7. Would you first identify that for Mr. Stogner and then review it?

A. This is a map showing, using the dark blue square, is well operated by Gruy Petroleum Management Company. Then additional to that one, I have a red circles. Those circles are currently our proposed locations. Then I have a small red squares in there, and are those wells currently under completion procedures.

I want to point out a very important well, which will be in Section 8 on the unit letter I. You can see I did not use the dark blue square to cover that well. That's original our proposed location which was drilled by Armstrong. So it's -- they operate that well.

Q. Okay. Now, when we look at Exhibit Number 7, the

squares indicate only wells that are operated by Gruy; is that correct?

A. That's correct.

Q. The red circles are simply your internal recommendations as to where additional wells should be drilled in the reservoir?

A. That's correct, sir.

Q. And will you be reviewing for the Examiner the methodology that you used to select these locations for additional wells?

A. Definitely, yes, sir.

Q. Is it Gruy's position that the additional wells will only be drilled after necessary approvals have been received from the Oil Conservation Division?

A. Yes, sir.

Q. Let's go to Exhibit Number 8. Will you identify that first and then explain what it shows?

A. Exhibit 8, showing the Yates structure map for those nine sections in the Rhodes area, 26 South, 37 East, based on a common picking of the top of the Yates. Those numbers are, generally speaking, above the sea level.

We can see we have a generally anticlinal feature kind of going north northwest to south southeast directions. We have contour line in between 50 feet.

Q. What is the significance of structure in this

pool?

A. Do to the pool exists for a long, long time, and I try to familiarize first, is there have any potential water table setting over there?

Second thing is, any potential oil reservoir which above the water table, and the possible any gas-oil-water contact, and also try to see what's the lowest-structure well producing in the field? Is there any potential expanding the limit of the field right now.

Q. And what does this show you?

A. I believe, based on this information, my conclusion is that we to not have a common water table setting in the Rhodes-Yates-Seven River Gas Pool, and the water in different wells we're facing different depths, and the -- also the wells on the edge of the reservoir, we believe we can drill more wells on the edge of the reservoir to recover more gas in place.

Q. Let's go to your isopach map, Exhibit Number 9. Will you review that for Mr. Stogner?

A. Yes, sir, Exhibit 9 is the work I did for isopach maps for Yates and the upper Seven Rivers. What I'm using is, using available logs and the porosity cutoff, 6 percent. And the -- I did not do the only Yates reservoir for the isopach map. I include the upper Seven Rivers also, because I believe they are continuous, same

reservoir.

And also by doing this way, you can see we do have a -- my interpretation -- localized thickening and thinning of this Rhodes-Seven River gas reservoir and is not, based on this interpretation, is not a homogeneous reservoir.

Q. All right, Mr. Lee, let's go back to what were earlier presented as Gruy Petroleum Exhibit Number 2.

A. Okay.

Q. This exhibit was originally sponsored by Mr. Jessup, who testified about the entries on the exhibit to the left of the status column.

A. Yes, sir.

Q. Did you prepare, or was the remainder of this exhibit prepared under your direction and supervision?

A. It's prepared by me, and I prepared a portion from the center, the completion date, all the way to the right, including the last column of current BHP.

Q. Now, does this exhibit contain information on all wells in the Rhodes Gas Pool?

A. Yes, except two wells. One is the well which operate by Permok, which will be in Section 14, 26 South, 37 East, and also the newest well which I heard complete by Mr. Doyle Hartman in Section 10, 26 South, 37 East.

Q. Let's go through these columns. The first column

is simply the completion date; is that right?

A. Yes, sir, the completion date with a slight -- On the first portion on the southwest quarter of Section 4, the completion date I'm putting there for 43 and 415 may be different than Mr. Zeno Farris filed to the State. The reason is, at that time we tried to get accurate bottomhole pressures, so the date put in there, August, 1998, for 43, and the July, 415, those two dates are -- only represent the 72 hours shut-in bottomhole data we acquired.

Q. The next column --

A. Next column --

Q. -- the gross perforations?

A. Excuse me. The gross perforations I'm putting there is using the best my knowledge from the existing well files and any published information, try to showing the perforation intervals. Sometimes they are different, sometimes they are including the upper or lower Seven Rivers, sometimes the wells might be shorter than they reach to the upper Seven Rivers.

Q. So basically what does this column show you about the wells in this pool?

A. The well -- This column show us, is, not only the wells can be deepening, and some wells maybe can add more perforations in those horizons and recover more recoverable gas.

Q. Now let's go to the column entitled "Initial Pressure". What does that show?

A. The initial pressure I'm showing is the date when those well complete their pressures. I have a hard time with some wells.

For example, the second well from the top, the Rhodes Federal Unit 41, that well was drilled and completed in October, 1939. I tried to check the best information I can have. I cannot get a really comfortable information. All I can find is 1945 pressures. That's the reason -- That's why I put in there 672 pounds in 1945.

And so on. You can see the next one will be the Rhodes Federal Unit 51. Again, I'm using 1945 pressures.

All those pressure I put in here is very important to calculate, based on the original pressures, what's the possible gas-in-place numbers and what's the ultimate recoverable gas under those wells.

Q. When we look at this pressure information, does that tell you anything about the area these wells could be expected to drain?

A. It's very interesting numbers in there. The reason is, for example, if we take a look at wells complete in 1973, for example, this northeast quarter of Section 8, which is Rhodes Federal Unit 81, 82, both well complete no more than two months apart. For the same period times you

can see the pressure have quite a bit of difference, about 227 pounds' pressure's difference over there.

And also we have another well, for example, the -- I'm sorry, the second page, the fifth one from the top, the northwest quarter 10 and the Rhodes Federal Unit 102, that well, you know, start in December of 1973, the pressure only have 275 pounds.

Then let's take a look at the pressure. For example, Burlington drilled the second one in 1991. In 1991, pressures information give you overall summary. They were as low as 300 pounds, as high as 500 pounds, indicating reservoir is not uniformly being drained, and we have similar pressures. In certain areas we will have higher pressures because they did not been depleted or drained by -- efficiently, by offset wells.

Q. The column, "Current Daily Rate" --

A. The current --

Q. -- why is that included?

A. The current daily rate I put in here just showing certain wells. For example, if we look the ninth one from the top, ninth row, the northeast quarter of Section 8, the Rhodes Federal Unit Number 82, and we only have 2 MCF per days production -- and some was higher, some was lower -- to show we do have different wells depletion taking place in different times.

Q. You used this information in your volumetric calculations and in your estimations of drainage areas for the wells; is that right?

A. Yes, sir, this is one of the factors.

Q. Let's go to your first cross-section, cross-section A-A', which has been marked as Exhibit Number 10. I'd ask you to review that.

A. Yes, sir. This cross-section A-A', which -- Excuse me.

MR. GALLEGOS: That's all right. Just a second.

THE WITNESS: Okay.

Q. (By Mr. Carr) Okay, Mr. Lee, let's review A-A'.

A. A-A' taking the north-south approach, which concentrate on the Gruy Petroleum Management Well Number 43 and 415 on the center two wells.

What I'm trying to do here is to showing they do have different tight streaks in different horizons.

For example, we taking look the well on the right-hand side, the Rhodes Federal Unit Number 54 -- apologize the poor quality, because copied several times. If we're looking just below the Yates horizon, we can see we have quite a bit of porosity tight streaks, less than six percent. And when you go in, follow the tight streaks to the left-hand side, they pretty well development into a more than 6-percent porosities horizons.

MR. GALLEGOS: I'm sorry, which one are you talking about?

THE WITNESS: I'm sorry. May I stand up?

EXAMINER STOGNER: Sure.

THE WITNESS: Thank you.

I'm talking about the well on your right-hand side, the 9 4 well on the cross-section A-A'. If we looking at a lease horizon here, you can see --

Q. (By Mr. Carr) And you can't say "in here"; you're going to have to define it so that in the record --

A. Okay, I'm sorry.

Q. -- we know what we're talking about when -- You're talking about the shaded area on the northern part of that cross- -- or that log?

A. Yes, sir. Yes, sir.

Q. Okay. Now, what did you want to say about that?

A. I want to point out, that one is -- being the Yates horizon according to my interpretation here, the porosity horizons, they are not uniform from top to bottom and the well-to-wells. They do have a lenticular porosity development in different section of the wells.

By doing so, it's one of my conclusion, just for well, you cannot efficiently to drain the whole Yates sections, sometimes as thick as about 225 feet. That's the gross, not the net, porosity horizons.

Q. And when you compare that gross thickness to your net thickness, what is the difference that you see?

A. Difference ranging -- For example, if we're using a -- averaging out at 200 feet, then your net porosity horizon sometimes as high as 120 feet to 130 feet, using the 6-percent cutoff.

And they also -- From this cross-section, you can see on the second well on your right-hand side, which will be Rhodes Federal Unit Number 415, that well actually is TD'd much shallower than the well to its right, Rhodes Federal Unit Number 9 4, and the 9 4 have additional porosity below the TD of the 415.

Q. When we look at this cross-section, what kind of a reservoir are you looking at? A homogeneous --

A. Definitely is not a homogeneous, definitely is a more complicated reservoir than original I start study.

Q. Okay. Let's go to cross-section B-B', Exhibit Number 11.

A. Yes, sir.

Q. What does this show you?

A. Again, the B-B', I tried to re-emphasize my conclusion on the nonhomogeneous reservoir, the point number one.

The second point, also you can see we do have wells through much deeper, just reach the top of Seven

Rivers, and they do have contributing oil and gas below the top of the Seven River reservoir. Re-emphasize, it's a nonhomogeneous, more complicated reservoir than original my thinking.

Q. Mr. Lee, let's go to Exhibit Number 12, your bubble map, and I would ask you to explain to Mr. Stogner how you prepared this exhibit.

A. This Exhibit Number 12 is combined all previous -- I mentioned the works, which including study the initial well-completion pressures, to study the gas quality, the nitrogen, CO_2 contents and the BTU of the gas, with the thickness of the isopach maps, additional to that one using the average porosity information, calculated saturation of water, using abandonment pressure based on the area, the gathering line pressure between 10 to 15 pounds to -- that's -- all factors.

Then using current those wells' curve of declines to figure out what the remaining reserves, add that to the cum so I can come on the ultimate recoverable gas, then back-calculating to what each one will, based on those circumstances, how many acres it can drain.

Q. So basically you took this data and did a volumetric analysis and estimated a radius of drainage, and that's how you plotted these circles; is that right?

A. That's exactly correct, sir.

Q. And based on this mapping, what were you attempting to do with this map?

A. Well, this map what I'm trying to do is, from prior my experience, I do not like this jumping area, drill several wells or workover several wells without at least give myself a comfort level.

First, after study this map, my conclusion is two parts:

First, based on my summary here, we need additional wells, or recomplete different wells to the shallow Yates-Seven Rivers to recover remaining reserves.

Second reason, based on this map, I can see a high potential we need to drill more additional edge wells to expand current producing areas in the Rhodes Yates and Seven Rivers Gas Pool.

Q. So basically your conclusions are that additional wells or recompletions are needed on certain spacing units to recover reserves?

A. Yes, sir.

Q. And that additional reserves can be recovered by expanding the reservoir with wells on the unit?

A. That's right.

Q. Is Gruy planning to propose a change in the overall rules for the Rhodes Gas Pool to permit additional wells on all spacing units?

A. No, sir.

Q. Are there any plans that you're aware of at this time to change the pool rules?

A. No, sir.

Q. And the locations that are indicated on Exhibit 12 are your recommended additional locations, correct?

A. That's correct.

Q. And you're not involved with the permitting process or the questions involving regulatory approvals for these wells?

A. No, sir, I'm not involved that direction.

Q. Your assignment is just to identify places where additional wells could be drilled?

A. Yes, sir.

Q. If this Application is denied, what, in your opinion, would be the impact on the correlative rights of Gruy?

A. Well, I believe we'll be denied to have the opportunity to efficiently to recover additional remaining reserves, and therefore our rights will be damaged.

Q. Could the reserves be recovered that are under these tracts by producing one well now, and then after that well hits its economic limit drilling or producing an additional well on each of these spacing units? Could they be produced in sequence, as opposed to being concurrently

produced?

A. Yes, if you really let those wells -- for example, you more than the gathering line pressure you're producing, you definitely maybe waited for a long, long time -- I can't tell you how long of your times. Our proposed location reserve definitely will be reduced.

Q. And what will -- Will you by producing them in sequence produce the same volume of gas as if you could now produce them concurrently?

A. No. Yes, I'm sorry.

Q. Will you -- Let me be sure you understand the question.

A. Okay.

Q. How will you produce most efficiently the reserves under the tract today?

A. Definitely will be drilled additional wells and get approval to produce all at the same time.

Q. And produce them simultaneously?

A. Yes, sir.

Q. If you are permitted to produce these wells simultaneously, will it have an adverse impact on the correlative rights of any other operators ion this pool?

A. I don't think so, because we are offset by ourselves.

Q. In your opinion, will approval of the Application

to simultaneously dedicate these wells otherwise be in the best interest of conservation and the prevention of waste?

A. Yes, sir.

Q. Were Gruy Exhibits 2, the portion that you pre- -- You prepared a portion of Gruy Exhibit 2, correct?

A. Yes, sir.

Q. And you were responsible for or prepared Exhibits 7 through 12?

A. That's correct, sir.

MR. CARR: At this time, Mr. Stogner, we would move the admission into evidence of Gruy Exhibits 2 and 7 through 12.

EXAMINER STOGNER: Any objections?

MR. GALLEGOS: May this be withheld pending cross-examination? There may be a couple of -- I don't have any objection except to Number 12.

EXAMINER STOGNER: Let's see, Number 12 being the drainage calculation?

MR. GALLEGOS: Yes.

EXAMINER STOGNER: Then you wouldn't object to 7 through 11 being admitted at this time?

MR. GALLEGOS: Yeah, and I would like to withhold ruling and have objections to 9 also. That's the net-pay calculations.

EXAMINER STOGNER: Well, for simplicity we'll

just hold off till...

MR. GALLEGOS: Thank you, Mr. Examiner.

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

EXAMINER STOGNER: Mr. Gallegos?

CROSS-EXAMINATION

BY MR. GALLEGOS:

Q. Mr. Lee, let's go back a little bit so we can learn some more about your experience.

A. Yes, sir.

Q. Tell us prior to this what work you have done in Lea County, New Mexico, hydrocarbon fields.

A. Yes, sir. I started with Echo Production. At that time our work was majority concentrate the -- I believe the King and the Gladiola and the Bronco field and the southeast portion of the Lea County, I believe, in the 13 South -- I'm not sure exactly township and range, but generally in that direction.

Q. What field?

A. The Bronco --

Q. Bronco.

A. -- and the King and the Gladiola field.

Q. In what formations?

A. This will be Devonian, Bone Spr- -- and the Wolfcamp, in that general directions. And also study --

I'm sorry, I cannot tell you exactly township and range -- will be in Eddy County across the state line from Loving County, the Delaware sands, Delaware sand over there. Also to the north will be Chaves County, New Mexico, for the Abo detrital, and also study the field called the Chaveroo field in the northern portion of Chaves County.

Q. Okay. That was back for Echo, back in the early 1980s?

A. Yeah, that's including Echo. I'm sorry, I jump ahead of the time. Echo and Henry Energy Corporation combined.

Q. Okay. What has been your previous experience in what we generally refer to as the Yates-Seven Rivers trend?

A. Okay, experience on that one, my majority work that time will be in early 1990 with CWF Energy. I was studying in the Eumont field and the Jalmat, which will be the 24 South, 36-37 East direction, for the -- not only for Yates, including the Tansill, Yates, Seven River and Queen. And a portion of the Drinkard -- Drinkard, D-r-i-n-k-a-r-d.

Q. What were you doing?

A. At that time we tried to acquire certain properties in that area, so we try to do the same thing to see under those -- that time, any potential additional wells, reserves, can be drilled by new wells or workover from the deeper horizons, and to evaluate any potential

acquisitions.

Q. And what happened? There were no acquisitions?

A. Well, the price, I believe -- it was very pricey, and we cannot see a six-years' or five-years' payoff purchase will be the best interest for the company. That's the reason those project dropped. And -- Go ahead, sir.

Q. Well, so is it accurate to say no wells have been drilled and completed in the Yates-Seven Rivers trend, based on your recommendations and your identification of producing areas?

A. Yes, sir, that's a correct statement.

Q. Okay. Now, when did you start working on this project for Gruy?

A. The starting date will be official May 1st, 1997.

Q. No, I understand you started work -- Your employment started on May 1st --

A. Yes, sir.

Q. -- 1997.

All right. I'm talking about the particular work that we see that you're presenting here today in the form of these exhibits. When did that study start?

A. Will be almost the same time, sir.

Q. All right. And so what were the steps that you took initially, then?

A. That time, due to the allotted well files, in

Houston, I went to Houston to collect a certain boxes informations relate to the Rhodes areas, try to get all the wells' past-perforations informations, recompletion informations for this whole township and range areas.

When we do not have those well files, I go to Fort Worth Geological Library or Geomap to collecting what additional information they have, and the same times I copy the Oil Conservation Commission production informations, make sure I have the most accurate information for those wells, same times collecting logs -- and unfortunately some logs are very, very old, are from 1950s, the cased-hole neutron logs -- and combine all those information together, start doing the -- what I call a pie chart map to show which well, which horizon they perforate, to make sure I give the right cumulative production to that particular horizons.

After that one, I correlate logs, get a structure map, then come back to doing the porosity net-pay calculations, get isopach maps, get those things done, then generally all those maps.

Next procedures, I follow up with looking at the curve of declines on the existing wells to see any portion of the fields have a higher remaining reserves under that circumstance, put that number with the cum so I got ultimate recoverable numbers.

Then go to the well files to find out, each one well, what type of gas we are talking about, the quality of the gas and what kind of pressure informations, try to get a BHP over Z number to correlate it back, combine all those informations together.

Then seeing the wells is an older well or newer wells, and start from the older wells to generate the bubble map which the ultimate recoverable oil map, the circle maps, and using pretty standard, about a 90-percent recoverable factors.

Then the newer wells follow. For example, in 1973 or 1990 will be the lower recoverable factors numbers.

So combine all those information together, come up the, I believe, my Exhibit Number 12, sir.

Q. All right, let's go back to your determination of a porosity cutoff factor.

A. Yes, sir.

Q. This was some -- This was the result of a calculation that you made?

A. Yes, sir.

Q. All right. Did you refer to any other -- any literature, any other sources as to what cutoff factors were being used in this particular area, in the Rhodes Gas Pool?

A. Yes, sir, I sure did. I got two different

sources.

One is several studies which was under the storage unit, at that time was O over O1. I cannot tell you exactly the date, I'm sorry, on that one.

The second one is based on the files we got from Burlington Resources. Burlington was using 12-percent porosity cutoff.

Q. Okay, that makes a considerable difference. In other words, the lower your cutoff factor, the more you're calling zones pay; is that correct?

A. Yes, sir.

Q. If it's 12 percent, many of the zones are not considered pay or productive, correct?

A. That's correct, sir.

Q. And you also found, didn't you, that it was common for those working in this area to use a cutoff factor of 15 percent?

A. Yes, sir, I also got the document there, yes, sir.

Q. Okay. What did you consider to be the factor you used for hydrocarbon-feet of pay in this particular formation?

A. That's depending on what Rw numbers you're using. You're using Rw number is 0.03, then you will have a higher net-feet pay. So using Rw 0.05, you will have a lesser.

And my general conclusions, I was -- I probably overall am using maybe a 13.5 to 13.

Q. Okay.

A. And I saw several documents, Burlington was using 12.2 numbers.

Q. Yeah, Burlington used 12.2 in their calculations --

A. Yes, sir.

Q. -- isn't that right?

And you're saying that your calculations use 13?

A. Yes, sir, 13 or 13.5, I cannot tell you exactly number, don't have the file.

Q. Then what did you consider generally to be the permeability?

A. I consider permeability overall as pretty low. I consider it -- I call it low is because I also work in different fields, in different areas. I thought that maybe looking at 1 to 2 millidarcy, maybe even lesser.

Q. Oh, so you consider this a tight formation?

A. Yes, sir. Yes, technical term, yes, if you compare with other sandstone reservoirs.

Q. Maybe something like your experience up in the Abo formation, would you say?

A. Yes, Abo -- No, Abo detrital formations would be similar wherever low permeabilities over there in the

Chaves County, New Mexico.

Q. Yes, but you considered this also a low --

A. Yes.

Q. -- permeability --

A. Yes.

Q. -- formation?

A. But you know, that's just overall. The average, you do can -- You know, they have several wells cored in there, they do indicate certain porosity horizons, sometimes as high as 15, 20, but they're very limit horizons under that high-perms areas.

Q. Okay. But by and large, the permeability was low?

A. Yes, sir.

Q. Okay, in your opinion?

A. Yes, that's in my opinion, that's correct.

Q. All right. Now, let's get a little better idea of what you did on Exhibit 2, which is this table.

A. Yes, sir.

Q. I tried to follow and I got lost to some extent, but I think you were telling us that one of the features of this table that you thought was significant to your opinion is that certain wells in close proximity and drilled roughly the same time show a significant differential in pressure?

A. Yes, sir.

Q. And I think the first example you gave was that of the Wells 81 and 82 in the northeast of Section 8?

A. I believe so, yes, sir.

Q. Okay. And then what was the other example? I got lost by the time I made a note. I think you flipped a page and --

A. I'm sorry if I speak too fast.

Q. No, that's all right, I just -- I'm slow with keeping up.

What was the other example?

A. Let's see. I believe I was using the second page, the fifth one from the top, would be northwest quarter of Section 10, The Rhodes Federal Unit Number 102.

Q. Okay, and comparing that against what, though?

A. Compare that one with the first on the northeast quarter of Section 8, the Rhodes Federal Unit 81, 82.

Q. I'm sorry, where is that?

A. That's on first page, the ninth columns -- ninth rows from the top, the northeast quarter of Section 8 --

Q. Northeast quarter of -- Oh, the two that we looked at --

A. Yes, sir.

Q. -- before?

A. Yes, sir.

Q. Okay. You're comparing that with the Rhodes Federal Number 102 because it was also drilled in December of 1973? That's why you --

A. Yes, in the same period of time, yes, sir.

Q. All right. And that information led you to the conclusion that this pressure differential indicates a lack of uniform drainage?

A. That's one of the factors, yes, sir.

Q. Okay, and just -- When we talk about the pressures over in the column of current bottomhole pressure --

A. Yes, sir.

Q. -- what is current -- what does that mean?

A. That's current pressure --

Q. This year or --

A. That's -- I'm sorry, that's September, 1997, the last time when we have pressure information, we send it to the OCD, except the first two wells. That's the 43 and the 415. The 43 is August, 1998. The 415 is July, 1998, pressure information.

Q. Well, what about the rest of this column? You're not telling us that all of these bottomhole pressures are as of September, 1997, are you? Throughout the table?

A. Yes, sir.

Q. Those are all taken in September of 1997 on all

of these wells?

A. Yes, sir.

Q. And pressure, bottomhole pressure, was ascertained in all of these wells?

A. Yes, we do yearly tests.

Q. All right. On all -- These are all Gruy wells. And you did a wireline --

A. Yes, sir.

Q. -- wireline on all of these wells?

A. Yes.

Q. Okay. So all these pressures are September, 1997?

A. Yes, sir.

Q. Now, let's look at -- And your cum production --

A. That's --

Q. -- what does that come from?

A. -- March, 1998, either from the OCD number, production number, or from a published company called Lasser, L-a-s-s-e-r, their CD-ROM production informations.

Q. Okay. And any cum that we look at here, we would understand that it would be from the completion data of the well until March, 1998? Or soon after completion. I mean, from when the well first went on production.

A. The newer wells, I would say yes. The older wells sometimes have a problem, because at that time the

unit was under gas injection program, and so the 1939, 1937 wells, I believe -- that's my best knowledge, that's the cum on that one, yes, sir.

Q. The cum would be for what period of time?

A. For -- Since their production days start, I believe so, yeah.

Q. So you're aware that this field was a gas-storage unit --

A. Yes, sir.

Q. -- for decades?

A. Yes, sir.

Q. So when you show a cum there, you're showing a cum that reflects native gas and storage gas?

A. No, sir. The cum showing is what later on when the Rhodes gas fields, they claim they already recover all their injection gas, from that point the native gas numbers.

Q. Okay. So your cum here should only be from that period of time after it was no longer a storage unit?

A. That's correct, sir.

Q. All right. Now, your pressures for the 81 and 82, taken in 1973, that you say show a significant differential, would be pressures taken when these wells were in the storage unit; isn't that right?

A. No, that part information is from their

completion information, when they complete the wells and perforate, frac, then they did a bottomhole pressure test informations before they injecting any gas.

Q. Oh, but they were completing the well into a gas-storage unit at that time?

A. That's correct.

Q. All right. And you don't think that could account for a differential in the pressure?

A. My opinion is, maybe very slight but I don't think there's a whole lot difference.

Q. What period of time was this a gas storage unit?

A. I do not have a file in front of me, but it's more towards 1950 and 1960s. Maybe I'm wrong. I cannot answer the question right now without my file with me.

Q. Well, do you know when it ceased to be a gas-storage unit?

A. Again, I really need to refer to more information in my office. I cannot recall exactly the day and month.

Q. Another factor beside pressures that I thought you -- on which you placed some significance, was, you said there is no common water table?

A. Yes, sir.

Q. I don't understand that designation or characterization. Would you explain that, please?

A. Sure, yes, sir. What I mean about common water

table, for example, if we're looking a homogeneous reservoir setting over there, if that's a water-driven reservoir we will see a bottom water table pretty uniform in place.

But under leased field, so far as my study result, we do have different wells in different horizon, different particular sand porosities, have more water than other wells in the area, lead me believe leases that's not have a common water coming up from underneath.

Q. Are you talking about the water saturation in the reservoir?

A. No, I'm talking about the production of the water, producing water from each one well.

Q. And do you have something that demonstrates that or charts that?

A. For example, we have a well in Section 22. It is the old name for the Rhodes Number 4-8A, as "apple". That well will be locate in the unit letter I on the Section 22, 37 South -- 26 South, 37 East.

Q. Uh-huh.

A. That well, we -- I got a call from the field office, said that we produce quite a bit of water, and after study, put a cast-iron bridge plug, and right now we produce water-free.

Q. That well is in fairly close proximity to

Texaco's Rhodes-Yates Waterflood Unit, isn't it?

A. That's correct, but we do not have the problem, for example, to the north of the Waterflood Number 1A, which will be unit letter C, and we do not have a problem in the Number 3A, the unit letter A, as "apple", in the same section.

Q. Well, but what you're doing is, you're getting a water flow in that particular well in the southeast of Section 22?

A. My conclusion is not -- Well, you know, geological engineering is always subject to different interpretations, but I don't think so.

Q. Are you aware that other wells in this area have encountered -- even farther away from the Texaco waterflood, have encountered serious water flows?

A. Yes, sir, I aware that information, and when we heard the problem Mr. Hartman, on he drilling his new wells, yes.

Q. Okay, so what else, other than what you've mentioned about the water in this well in the southeast of 22, supports this position about a differing water table?

A. In the Section 8, we can take a look.

The old well, called the Rhodes Federal Gas Unit Number 22, which will be unit letter G, Section 8, 26 South, 37 East, direction, that well original was perforate

shallower, so I try to going back down to the upper Seven Rivers, which, after I perforate that one and we encounter very high percentage of the water.

Same token, the same horizon, when we did the re-entry project on the old Texaco well, called the Number 28 Moberly, due west on the unit letter F, Section 8, 26 South, 37 East, we do not have the water problem.

Q. And that's -- Those two wells tell you, then, that there's a differing, as you put it, water table?

A. Yes, sir.

Q. How successful was that well that you just mentioned that you drilled? I guess it's in the northwest of Section 8, in unit letter F.

A. F, is unit letter F.

Q. Yes, sir.

A. That's a re-entry well, and originally was abandoned by Texaco. And I went back in there, and as far as the averaging out, we are looking at between 10 to 12 barrels of oil per day with the gas volume between 120,000 to 135,000 cubic feet of gas per day.

Q. And that's completed in what formation?

A. That's well completed with the Yates and upper Seven Rivers.

Q. Let's, if we might, concentrate just a bit on the work on Section 4, to start with.

A. Yes, sir.

Q. It's up there on the board, and it's also portrayed on your Exhibit Number 12 --

A. Yes, sir.

Q. -- drainage areas.

Focusing on the southwest quarter of Section 4 --

A. Yes, sir.

Q. -- there was already existent the well that we've been calling the 41 --

A. Yes, sir.

Q. -- which would be in the southeast of the southwest?

A. Yes, sir.

Q. And that's shown there, that's meant to -- Your circle is meant to portray that well?

A. Yes, sir.

Q. And the circle, the large circle around it, represents the area of drainage from the 41?

A. Yes, sir.

Q. And the 41 has been in place since -- I forget when it was --

A. 1939.

Q. Yeah, okay. All right, and then there was also on that unit the 43 well, which had been originally an oil well? Is that --

A. Yes, sir.
Q. Is that shown here?
A. Yes, that's showing that a gas well.
Q. Shown as a gas well just --
A. Yes.
Q. -- at the very -- you might call it the very north end of this --
A. Yes, sir.
Q. -- southwest quarter?
Q. All right. And the drainage area you're showing there is the gas-drainage area?
A. Yes, sir.
Q. And then what you're proposing, then, the square -- the WOC stands for what?
A. Wait on completion.
Q. Meaning that the well is already drilled?
A. Yes, sir.
Q. It's actually completed?
A. Either waiting on completion or during completion procedure but not completed yet.
Q. This is the 4- -- what's been referred to as the 415?
A. Yes, sir.
Q. All right. And what's the drainage area to be of the 415? You don't portray that. That's going to overlap,

clearly is going to overlap the other two circles of drainage that are already shown; isn't that true?

A. No argument, sir.

Q. And did you -- you recommend the drilling of the 415 in what would be the southwest of the southwest?

A. Yes, sir. At that time during the recommendations is -- our main, primary target was not Yates-Seven River reservoir. Actually, that quarter section we do own oil right. So original my proposal was go to 3450 or 3500 feet to take a look the potential for the Queen horizons, the oil horizons.

But that time, when we drilled down to about 3050 feet, I got a call from the field drilling superintendent said that they only can go down to about 3057 feet. From 3050 to 3057 feet --

Q. They lost circulation, didn't they?

A. The totally lost the circulation. They fought for quite a while, so I refer that matter to our drilling engineer and finally decide, due to the potential encounter of the mechanical problems, so we decide, go ahead TD that at that depth.

Q. Okay, let's get this sequence real clear. Okay? Basically, the fact was, as far as the -- as another gas well, this quarter section was drained and would be drained efficiently with the 43 and 41 well; isn't that true?

A. I would say the majority, yes, but not all. Because we still can see we have the southwest quarter, southwest quarter do have some space left, and also to the northern half of the northeast quarter have potential in drain areas.

Q. Well, but you have offsetting wells in other areas that will drain, just as the 41, according to you, is draining gas from under Section 9?

A. Yes, that's a correct statement.

Q. All right. So what you did is, you thought you had selected a location for an oil well in the -- what? Langlie-Mattix-Queen?

A. Yes, sir.

Q. All right. So then what happens is, at about 3000, 3100 feet, they're drilling and they lose circulation?

A. I believe it's 3050, yes, sir.

Q. 3050.

A. Yes, sir.

Q. All right. Now, I mean that's probably telling you you're hitting a permeable reservoir, right? It's not uncommon?

A. That's correct, sir.

Q. Your mud or your drilling fluids go up because you're getting into a high-permeability reservoir?

A. Yes, sir.

Q. Which was the Yates reservoir, right, at 3050?

A. That's a Yates-Seven River, much more the upper Seven River horizons.

Q. All right. And it's not uncommon when that happens for those conducting the drilling to take steps to regain the circulation?

A. Yes, sir.

Q. But Gruy didn't do that?

A. At that time we were using the water system. We do not have a mud on locations, and that's the reason our drilling superintendent finally decide it will be a wise decision to, due to mechanical problems, stop the drilling.

Q. You're drilling without mud?

A. Yes, sir.

Q. You're just drilling with brine water?

A. Yes, sir.

Q. Okay. But even at that, you can call out Halliburton and they come out and you use the lost circulation materials and you get going, put the mud, and you can start up again; isn't that right?

A. They did using the lost-circulation materials, and -- but cannot regain the circulations, and then they call so we made a decision to stop drilling.

Q. And that well was not logged, was it, open-hole

log?

A. That well, we hired Schlumberger at that time -- Let me get myself right. We set a pipe, we run the case hole log.

Q. That's what I said, you did not do an open-hole log?

A. No, we did not.

Q. And you as a geologist, you know that you're in a situation here where you're going to be coming before a regulatory body to make a geology presentation and talk about the behavior of the reservoir and the drainage, but you don't get an open-hole log in this log; isn't that what happened?

A. That decision made is first, do you have so many wells in the area, in the Rhodes area, adjacent, I talking about, 80s, 90s, comments on the neutron-density porosity log, dual lateral logs.

And the -- we won't have a chance also to evaluate any potential deeper wells which case the hole, have any potential by using a case-hole evaluation too.

So at that time our decision was, it will be a good time to case this well using case-hole evaluation logs to evaluate under these kind of circumstance how close the oil and gas -- I'm sorry, the hydrocarbon in the porosity horizons we can produce, versus of the open-hole logs. So

we're doing experimental to see the case-hole log will work as good as the open-hole logs.

Q. Wasn't the situation was that Gruy was in a hurry to get these wells drilling, a drilling contract, and so when it lost circulation, decided we'll just stop there, move the rig to drill the next well, and we'll just make this a gas well?

A. No, sir.

Q. Well, but you agree it could have gone on and drilled to the target formation; it just would have taken more time?

A. It's possible, but I don't know.

Q. Well, also, unless I misunderstood your testimony, I thought you were telling the Examiner earlier that you were using this 415 well as an example to show that some wells were completed in deeper formations and therefore opened up more pay, and some wells were not drilled so deep, and that meant to you that more pay was available than is being produced?

A. Yes, sir.

Q. But what really happened on the 415 is what you've just described: You simply -- They lost circulation and stopped at that point?

A. That's one reason.

The second reason, if you take a look, the wells

which on your left-hand side on the cross-section A-A', called the Texas Pacific Coal and Oil Company, the Farnsworth Number 4-12, that well perforated as low as just below the top of Seven Rivers, and that same horizon is also not appear in the 415 wells, and the -- also that perforations was not in the second well from your left-hand side, the Rhodes Federal Unit Number 43 well.

Q. Okay, these logs -- The log on the Rhodes Federal Unit 43 is the log we're talking about, which is a closed case log, as opposed to an open-hole log, right?

A. That's correct.

Q. We're comparing -- The Texas Pacific Coal log is an open-hole log --

A. Yes, sir.

Q. -- so we're comparing an open-hole log to a cased-hole log?

A. Yes, sir.

Q. And I take it, Mr. Lee, that when the circumstances occurred in the drilling of the 415 and you decided to -- we'll just stop there at the depth we're at and perforate in the Yates, you weren't aware of the rules of the Commission that have been discussed this morning that no more than one well is allowed on a 160-acre spacing unit in this --

A. No, I was not aware of that, sir.

MR. GALLEGOS: All right. That's all the questions that I have.

EXAMINER STOGNER: Thank you, sir.

Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Lee, would you point to whichever cross-section you prefer to illustrate for me what is your opinion with regards to the location of the various substances?

For example, if I look at a cross-section, where would you tell me I would look to find any oil accumulation? You've got Exhibit 10 and Exhibit 11 to work with. Which one would you like to see?

A. Well, for that purpose I would suggest let's use the cross-section B-B' --

Q. All right --

A. -- instead of --

Q. -- let's use this one.

A. Okay.

Q. If I'm asking you for your opinion of where the oil is stored, where would I find that, looking at this vertical display?

A. This vertical display, all you can see right now

is half the story, because in here, I'm putting here comments from density porosity logs. That's one of the factors to look into. The saturation of water is producible or possible, the water saturation too high, possible will have majority either water or oil. I say water or hydrocarbon.

Q. Okay. When we're looking to drill an oil well --

A. Yes, sir.

Q. -- in the Yates-Seven Rivers, where are we most likely to perforate that well to attain an oil well?

A. The most possible place was started just below the upper Seven Rivers, all the way down to the Queen horizons.

Q. Within that interval, would we also produce gas?

A. Yes, sir.

Q. And would we also produce water?

A. Depending on, again, your -- where are you locate, and which lenticular porosity you are perforate. They will have a lot of variations.

Q. Is there a defined water contour position in the reservoir?

A. Again, I do not believe so.

Q. Okay. When we look at your structure map --

A. Yes, sir.

Q. -- is it of significance to you that on the

structure map we either increase or decrease the probability of attaining an oil well, based upon where we are on the structure map?

A. No, because structure map I'm making here is the top of the Yates structure maps. From the top of the Yates to the Seven Rivers, then to the next horizon, Queen, the thickness are not uniform, so they will have variations of this structure, from the lower two horizons.

Q. When I'm looking to examine your criteria or your conclusion --

A. Yes, sir.

Q. -- that we need to drill more edge wells --

A. Yes, sir.

Q. -- and we need to recomplete existing wells higher up in the reservoir to recover additional hydrocarbons that won't otherwise be recovered --

A. Yes, sir.

Q. -- that's our objective. How can I use your structure map to tell me where to find those places?

A. Using structure map, either combined with isopach maps, finding the additional potential locations for the Rhodes-Yates-Seven River Gas Pool, but not including the lower Seven River or the Queen formation oil -- potential oil productions.

Q. When I look at your structure map, is there an

advantage, then, in drilling higher on structure?

A. Not necessary.

Q. To what extent, then, does structure play in importance in your decision about well locations?

A. It's one of the factors.

Q. Can you attribute a percentage to it?

A. Sir, I never put a percentage on which factors is more important than the other one. All I'm trying to do is using a factor to come up in my Exhibit Number 12, using that Exhibit Number 12 to finding the possible gas in between circles, to come off my potential suggest locations.

Q. Yes, sir, and that's what I'm trying to do. I'm trying to take the bubble map, Exhibit 12 --

A. Okay.

Q. -- and to find the positions you've chosen for the 415 and the Number 5 well and compare it to the structure map to see if looking at the structure map --

A. Uh-huh.

Q. -- gives me a clue as to why those wells were placed there. And frankly, I cannot find a relationship that justifies those locations based upon structure. Did I misread this?

A. Actually, the structure map, if you look in Rhodes State Com Number 5, which will be the unit letter C

on Section 16, 20 South, 37 East --

Q. Yes, sir.

A. -- we really need to also take a look at the isopach map. For example, we have -- we're dealing with a monocline sliding nose to the southwest, going downdip, By the same token that nose change, we have, my opinion, we have a much thicker of the sands sitting over there, the two combine.

Q. Is this a solution gas drive reservoir?

A. It's really hard question to ask, and I would -- under the circumstance, I'm still studying by doing various completions and try to learn more about that aspect, so I cannot answer that question right now yes or no.

Q. Do you see any partial water drive or water drive influence that would affect pressure in the reservoir?

A. No.

Q. Are the oils and gases, the hydrocarbons, organized in a vertical sense in the reservoir where we can find the gas above the oil?

A. Not necessary.

Q. Okay, so we're not dealing with a gas cap in here?

A. No, I don't think so.

Q. When I look at the isopach map, can I pick well locations based upon the thicknesses you've contoured on

the isopach?

A. You will not pick any location just purely based on isopach maps.

Q. When I go back to the bubble map, did you bring with you, Mr. Lee, the supporting information that shows us what the actual EURs were for any of these wells and the methodology used to make those conclusions?

A. I believe I have some, yes, sir.

Q. Did you do this volumetrically?

A. Yes, sir.

Q. In addition, did you examine this based upon production decline curves?

A. Yes, sir.

Q. In addition, did you use any P/Z analysis?

A. Try to match them, yes, sir.

Q. Yes, sir. Do you have all that data with you today?

A. I do not have all of those data.

Q. All right. If requested, could you provide that after the hearing to the Examiner and to the parties, so that we can validate the accuracy of your bubble map?

A. Yes, sir.

Q. Let's -- Do you have available enough information on the EURs that we could get some actual numbers to fill in some blanks on Exhibit Number 2? This is the table of

data. What I'm interested in knowing, sir, is, if we look at the entries for the southwest quarter of 4, can you supply us with what the EURs are that you calculated for the 43 well and the 41 well?

A. The -- I did not put any EUR on these dedication, description --

Q. Yes, sir, I'm suggesting we're going to do that now --

A. Okay.

Q. -- because you have drawn circles on the bubble map --

A. Yes.

Q. -- and I need some numbers to go with the circles.

Do you have those numbers? Is it something we could do after the lunch break?

A. Yeah, I think --

Q. Let me show you what I want --

A. Okay.

Q. -- want to get from you. I would like the estimated ultimate recoveries --

A. Okay.

Q. -- for those wells for which you've made that calculation in the southwest quarter of 4.

A. Yes, sir.

Q. And if you'll do the same for us, for the northwest of 16?

A. Northwest 16?

Q. Yes, sir.

A. Yes, sir.

Q. And that would give me some information with regards to the bubble map.

A. Yes, sir.

Q. When I look at Exhibit Number 2 and I'm looking at the cumulative production numbers --

A. Uh-huh.

Q. -- I am still not clear on the answer to a question Mr. Gallegos asked you. When you look at the 41 well --

A. Uh-huh.

Q. -- it appears to me that the cumulative production is 6.6 BCF of gas.

A. That's correct, sir.

Q. Is there any portion of that cumulative production attributed to the stored gas?

A. I do not believe so.

Q. All right. So that well, based upon your analysis, has currently accumulated, as of March, 1998, some 6.6 BCF of gas, right?

A. Can I answer that question also after I get my

supporting information, particularly so I can answer that better?

Q. All right, sir. And when you constructed your bubble map and were looking at the 43 well --

A. Yes, sir.

Q. -- which is the one in the northwest southwest, there's a circle around that well, is there not?

A. Forty-three, yes, sir.

Q. It's accumulated only 8000 MCF of gas, and so you've got a future forecast for that well --

A. Yes, sir.

Q. -- of an EUR that you're going to give us later?

A. Yes, sir.

Q. Okay. In addition, while we have a break, would you give us the other values you used in your volumetric calculation? I think you gave Mr. Gallegos some of those values, but so that we could save some time after lunch, I might ask you to go through the list of the parameters or values you put into your volumetrics. I understand the thickness is going to change --

A. Uh-huh.

Q. -- but you can give me water saturation and the other values that you used?

A. Yes, sir.

Q. All right. I can see on the bubble map the

location of the edge wells.

A. Yes, sir.

Q. I understand you're arguing about the edge wells. Describe for me now what your argument is for recompleting or drilling new wells internally. For example, the Number 5 well and the 415. What causes those wells to be there, and what's the basis for that position?

A. The Rhodes State Com Number 5, you can see according to my estimations we do have quite a bit of area which, according to my bubble maps, has not been drained.

Then the 415, again, like I state before, the 415 original was not a well, primary target on the Rhodes-Yates-Seven Rivers. That was a well original want to drill through the deeper horizon for the Queen. That's the reason why you can see the square. I will come same question if I look this one, why I put a well in the 415, that's correct, because I'm looking at deeper target horizon. Was not primary for Yates-Seven Rivers.

Q. When we look at your bubble map, do you see any more internal locations within the pool, for example, in the southeast quarter of 9, which represents a satisfaction of the criteria that you used for the Number 5 well?

A. No, I don't think so. The reason is, on the unit letter P on Section 9, that well I'm still try to search exactly what it was cums, everything. If they were -- well

have any kind of cum, I believe was taking most out on the southeast Section 9. That's the reason I do not have a proposed location.

Q. You couldn't move over to Unit O?

A. No, that will be too close and -- too close to the both two wells to the northwest and southeast.

Q. Do you have a criteria for the minimum distance between wells?

A. No, I don't have a criteria for minimum distance between wells. I'm try to using the what area potential left in that pool to choose my locations. Sometimes will be more than maybe 2000 feet, sometimes lesser, depending on what my bubble map show me.

Q. Have you examined the pressure data in the reservoir to see if there is pressure communication among or between certain wells or families of wells?

A. I try to do that. Then the problem I'm facing is, you have a lot wells which they were using different frac techniques. So really very difficult to judge how efficient the frac did for the wells. And that's the reason you are seeing some well drain, itself have a better porosity, perms, and maybe additional add benefit from the artificial fracturing, so you produce more than other wells, and some wells lesser.

Q. I guess what I was trying to ask you was, when

you compare one well to another, is there adequate pressure information so that you can see a pressure effect between wells?

A. Not necessary, sir.

Q. When we look at the current bottomhole pressure for the wells shown on Exhibit 2, the September of 1997 data --

A. Uh-huh.

Q. -- it appears that for the most part the reservoir has been substantially depleted to less than 100 pounds, bottomhole pressure?

A. That's correct statement.

Q. What do you estimate to be the ultimate bottomhole pressure upon abandonment of the various wells?

A. I'm using currently, is using the what gathering line pressures in the area, which are around 15 pounds, plus or minus two or three pounds.

Q. Fifteen pounds is what you're using?

A. Yes, sir.

Q. Is it your expectation that the pressure in the reservoir can be drawn down to that pressure?

A. No, the pressure -- refer that one, this will be related to your flowing tubing pressures.

Q. So what would we expect to be the bottomhole pressure upon abandonment?

A. I cannot answer that question right at this moment.

Q. What did you use in your decline-curve analysis as an abandonment pressure for your EUR purposes?

A. Fifteen pounds, 10 to 15 pounds.

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINER STOGNER: Mr. Carr, any redirect?

MR. CARR: No redirect.

EXAMINER STOGNER: Mr. Gallegos?

MR. GALLEGOS: No further questions.

EXAMINER STOGNER: Okay, is there any objection to admitting these exhibits into evidence at this time.

MR. GALLEGOS: No objection.

EXAMINER STOGNER: Okay, Exhibits -- what, 7 through 12?

MR. CARR: They are Exhibits 2 and 7 through 12.

EXAMINER STOGNER: Two and seven through 12.

EXAMINATION

BY EXAMINER STOGNER:

Q. I have one quick question on Exhibit Number 2.

A. Yes, sir.

Q. You show the status, whether it's shut in, flowing or pumping.

A. Yes, sir.

Q. If it's a gas well, what's it pumping?

A. Because sometimes we do produce one or two barrels water per day, or they're -- the pressure so low we can lift the gas, the reason we have a pumping unit out there removing liquids.

Q. In your review of the records, were they all flowing at one -- initially?

A. Yes, sir. For the Yates-Seven Rivers, yes, sir.

Q. On the Number 43 well, are you going to have to put a pump on that one?

A. The 43 wells, we eventually need to put a pumping well, but right now the well is flowing and no liquid production.

Q. Do you expect that to change?

A. It's possible, but I really cannot give a conclusion, because the 41 wells is been flow for quite a whiles.

EXAMINER STOGNER: Mr. Kellahin, what information are you going to be --

MR. KELLAHIN: I've asked Mr. Lee, for the sake of expediting things, to provide us his estimates on the EURs so we know the actual number that went into each of those two spacing units. You can't read it off the bubble map, obviously.

MR. GALLEGOS: Values for his volumetrics.

MR. KELLAHIN: Right, yes, sir, and the values he

used for his standard volumetric calculations so that we might have our own engineer duplicate his work.

EXAMINER STOGNER: Okay, Mr. Carr, when do you think you'll have that available?

MR. CARR: How soon can you have it? Can you have it after lunch?

THE WITNESS: Yes, sir.

MR. CARR: Okay. We can present that first thing after lunch.

EXAMINER STOGNER: Okay, I'll tell you what. Let's -- At this time let's take a lunch break. We'll keep Mr. Lee after you get back, and we can amend or supplement Exhibit Number 12 with that information.

So at this time let's take a lunch break, and we'll reconvene at 1:30.

(Thereupon, a recess was taken at 12:26 p.m.)

(The following proceedings had at 1:33 p.m.)

EXAMINER STOGNER: This hearing will come to order.

Mr. Carr, I believe you have a supplement to 12. You want to call it 13?

FURTHER EXAMINATION

BY MR. CARR:

Q. Mr. Lee, I've handed you what has been marked as Gruy Exhibit Number 13. Could you identify what that is,

please?

A. That's the four different wells. I'm using the standard gas-in-place calculations for each one well. How I arrived the bubble maps.

Q. And so if we go to each of these pages, the first one says Farnsworth "C" Number 1 well. That's actually the Number 41 well; is that right?

A. Yes, sir, because we --

Q. You've written that on the exhibit?

A. Yes, sir.

Q. And then the next one is the Farnsworth "A" Number 1. That's the 43 well?

A. Yes, sir.

Q. And then the last two sheets are the Rhodes Gas Storage Unit 18 and 19?

A. Yes, sir.

Q. If we look at these exhibits, it sets forth all the factors and values that were used in your volumetric work?

A. Yes, sir.

Q. And the EUR is shown as the recoverable gas figure on each of these pages.

A. Yes, sir.

MR. CARR: Mr. Stogner, we'd move the admission of Gruy Exhibit 13.

EXAMINER STOGNER: Are there any objections?

MR. GALLEGOS: No objection.

EXAMINER STOGNER: Gruy Exhibit Number 13 will be admitted to evidence at this time.

MR. CARR: And that concludes my examination of Mr. Lee.

EXAMINER STOGNER: Mr. Gallegos?

MR. GALLEGOS: Just a moment, please.

I have no questions, thank you.

EXAMINER STOGNER: Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

FURTHER EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Lee, when we look at Exhibit 13 and look at the first page -- this is for the 41 well -- and when we look at the bubble map, which is Exhibit Number 12, the 41 well is going to be the one in the southeast of the southwest of Section 4?

A. Yes, sir.

Q. That size of that circle --

A. Yes, sir.

Q. -- corresponds to an area of 143 acres, if I've read Exhibit 13 correctly?

A. Yes, sir. The radius you can find will be the -- If you see the well name, you go to the right-hand side,

the well name, the next one I have an R equals a 1409. This well that I calculate 1409 feet on radius.

Q. When you make this calculation, then, you are trying to give us the size of a circle for the recoverable gas number shown on the bottom of this display, which is the 6.6 BCF of gas?

A. Yes, sir.

Q. Now, when we compare this to the next tabulation for the 43 well, many of the same parameters are used, with the exceptions of certain ones.

You've made a corresponding adjustment in the net pay, which would be the thickness. In this well it goes from 150 feet in the first well down to 125 feet?

A. Yes, sir.

Q. You made an adjustment in the porosity, you went from 14 to 15 percent?

A. Yes, sir.

Q. And you changed the water saturation, and it appears that the rest of the values are the same, with the exception of pressure?

A. That's correct, sir.

Q. Okay.

A. That well -- May I point out? That well calculation was before we drilled the 4-3 well.

Q. Yes, sir, I understand.

A. Yes, sir.

Q. And so you've got .6 of a BCF of gas for this well, contained within an area of 87 acres?

A. Yes, sir.

Q. Explain to me how you can get 6.6 BCF of gas within a container, the size of which is 143 acres?

A. The key on this one is the initial pressures in there. The initial pressure you can see right now, due to well very, very old, I do not know exactly what's the 1939, that well pressure, so I'm using assumable number, 900. I know it should be higher than that.

When you compare 900 pressure to start with versus a 200 p.s.i., that can make a tremendous difference of the area being drained.

Q. Why isn't the area of acreage higher than 143 acres to contain 6.7 BCF of gas?

A. Because that's related to the gas in place for the gas in the pore-space areas. When you have higher pressures, you will have a much easy flows to your wellbores, which also combination with your porosities. This reason, you have a higher-pressures wells, you normal case, if the porosity saturation number same, will be higher recoverable gas than much lower pressures wells.

Q. On the bubble map, then, you're contending that the bubble for the 41 well should not be substantially

larger than depicted on this display?

A. No, because this display I'm using 1409 feet radius.

Q. Yes.

A. And the 43 I'm using 1100 feet radius.

Q. You see what I'm trying to understand? When I look at the size of the two circles they are approximately the same; the 41 circle is slightly bigger than the 43 circle.

A. Yes, the 41 circle is about a 300 feet of radius bigger than the 43 circles.

Q. And that 300-feet difference is enough to contain gas -- what? Ten times more than the other well?

A. Also related to the pressure difference, using initial 900 pounds pressure versus a 200 pounds pressures.

Q. Based upon that data, what would you forecast or expect to be the EUR of the 415 well?

A. 415 well, I cannot really answer you that question right now. The reason is, 415 wells, our rate right now extremely high at 300,000 cubic feet of gas per day, but the pressures right now is 133.

If I apply these number, assuming all other factors the same, because we did not take the gas samples so I cannot tell exactly nitrogen, H_2S, CO_2 yet -- if I apply the same factors in there, I believe -- I just give

you a rough number right now, and I believe maybe we are looking at about 450 million, plus, minus. -- number, but just a quick estimate.

MR. KELLAHIN: All right, thank you, Mr. Lee. Thank you, Mr. Examiner.

EXAMINER STOGNER: Any redirect, Mr. Carr?

MR. CARR: No redirect.

EXAMINER STOGNER: Any other questions of this witness?

MR. GALLEGOS: This cross-examination inspired just a question or two. May I --

EXAMINER STOGNER: Please.

MR. GALLEGOS: -- Mr. Examiner?

FURTHER EXAMINATION

BY MR. GALLEGOS:

Q. On your -- what we've been calling the bubble map, which is Exhibit 12 --

A. Yes, sir.

Q. -- I'm curious about the circle around what so far has been an unidentified well in the southeast of 4. Do you see what I'm talking about? There's a well shown there in a circle which is larger -- appears to me to be larger than the one that you've drawn for the 41.

A. Yes, sir, you're talking about that one, the southeast quarter of southeast quarter, Section 4?

Q. Yes, sir. What well is that?

A. That well, the old name actually is called the Farnsworth 414.

Q. You've got some data on that?

A. I don't have that with me, sir.

Q. Farnsworth 414?

A. Yes, sir.

Q. Is Gruy still calling it -- Is it still named that?

A. No, I believe we change the name, but I cannot tell you exactly what that name called. If you give me a minute, why, maybe we can dig out that information.

Q. And if you're going to get some information, do you have offhand --

A. -- the well name, I --

Q. Well, do you have offhand the similar calculation which you've given us, which would be drainage acres, gas in place, that information?

A. I do not have that well in my file right now, sir.

Q. Do you know how long that well has been producing?

A. No, I need to get more information before I really can give you a right answer on that one.

EXAMINER STOGNER: Well, let me see if I can

help. Does that well show up in Exhibit Number 2?

THE WITNESS: Oh, yes, sir. That's the well -- I'm sorry, here it is. The Rhodes Federal Unit Number 47.

Q. (By Mr. Gallegos) That would be it, right?

A. Yes, sir.

Q. Okay. And now, isn't it true we show a completion date there of June of 1990?

A. That well was plugged back in June, 1990. Original was drilled all the way to the Queen, opened up all the horizon from shallow all the way to the Queen horizon. Then later on, due to the Queen horizon, they deplete, so they plug back to produce --

Q. Because it was an oil --

A. Yes, sir.

Q. -- originally?

A. Yes, sir.

Q. And then it was recompleted in 1990 by Meridian --

A. Yeah, they set --

Q. -- as a gas well.

A. They set cast-iron bridge plug, isolate, only produce from the Yates horizon.

Q. Right. So only having produced since the middle of 1990, that well has produced 623 million?

A. Yes, sir.

Q. And evidently, from the size of this circle, you are predicting that it's going to produce more than the 41 --

A. No, sir.

Q. -- which has produced 6.6 billion?

A. No, sir, because the initial pressure on that was much lower than the 41. You can see I put over here the 47, where are the initial pressure, only have 163 pounds pressures.

So that well, I believe I was forecasting that well will be at about a -- close, 900 million to a BCF range.

Q. But it's obviously going to drain --

A. -- bigger area.

Q. -- 160 acres or more?

A. Yes, sir. Yes, sir.

Q. Okay, a former oil well, recompleted to the gas zone?

A. Yes, sir.

MR. GALLEGOS: All right. Okay, thank you.

FURTHER EXAMINATION

BY EXAMINER STOGNER:

Q. Well, that kind of brings me up to something here. I look in the southeast quarter of Section 5, if I look at Exhibit Number 2. That's called the Rhodes Federal

Unit Well Number 51, and it's been producing since 1937, and it's got 2.4 BCF.

A. Yes, sir.

Q. And then when I correspond and look over here on Exhibit Number 12, our bubble map --

A. Yes.

Q. -- that's a pretty small bubble.

A. Ye, sir. That well was original complete in April 1937. Based on the information extrapolate from the 1945 pressure, I believe I was using close to about 1000 pounds initial bottomhole pressures, using the thickness -- I'm seeing my map here, is using about 135 feet net pay. And therefore, that well is slight smaller than the 4-1 well, and close to about 120 acre, something like that. Ultimate on that well, I believe, is about 2.5 B's.

EXAMINER STOGNER: Any other questions?

MR. CARR: No questions.

MR. GALLEGOS: No questions.

EXAMINER STOGNER: Mr. Lee, you may be ex- -- I'm sorry, did you have something, Mr. Gallegos?

MR. GALLEGOS: No, sir.

EXAMINER STOGNER: Okay, you may be excused, Mr. Lee.

MR. CARR: Mr. Stogner, that concludes our direct presentation.

MR. GALLEGOS: Mr. Examiner, we call Doyle Hartman.

EXAMINER STOGNER: Mr. Gallegos, please proceed.

DOYLE HARTMAN,

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

DIRECT EXAMINATION

BY MR. GALLEGOS:

Q. Would you state your name, please?

A. Doyle Hartman.

Q. Where do you live, Mr. Hartman?

A. Dallas, Texas.

Q. Are you a party in this proceeding under the -- doing business named Doyle Hartman, oil operator?

A. Yes, I am.

Q. And what is the nature of your business, generally?

A. We're in the oil and gas business and operate primarily in Lea County, Jalmat and the Eumont Pools.

Q. Okay. Has that been an area of specialization for you?

A. Yes.

Q. For how many years?

A. Over 20 now.

Q. And approximately how many wells have you

drilled, completed, reworked, completed and operated in this trend?

A. Oh, 175 or 200.

Q. Okay. Mr. Hartman, have you previously provided your qualifications before Examiner Stogner and been accepted as an expert?

A. I'm not sure about before Examiner Stogner, but in the same era he was there. I'm not sure if we had --

Q. Before this Division?

A. The same era when he came. I remember when he came.

MR. GALLEGOS: All right. To save time, we offer Mr. Hartman as qualified to give opinion testimony on the issues in this matter.

MR. CARR: No objection.

MR. KELLAHIN: No objection.

EXAMINER STOGNER: Mr. Hartman is so qualified.

Q. (By Mr. Gallegos) Mr. Hartman, have you prepared a series of exhibits that you're going to sponsor that are numbered 25 through 39? Thirty-nine includes the demonstrative exhibit on the board.

A. Yes.

Q. And what, generally speaking, have been the -- has been the source or the sources of the information on these exhibits?

A. The sources have been *Dwight's* data, OCD data, El Paso data, scout tickets, OCD well files, log information, you know, purchased from PI, Riley's or whoever.

Q. Okay. Have the exhibits that you're going to speak to been prepared by you personally or at your personal direction?

A. That's correct, yes.

Q. Now, just by way of a little bit of introduction, when did you become aware of the activities of Gruy in the Rhodes Gas Pool?

A. You mean as far as the current group of wells?

Q. Yes, as far as the situation that we're dealing with here.

A. Okay. The day I wrote my letter.

Q. Which was what date?

A. That was May 21st, that was when I became aware of -- that they had some pending locations in the near future.

Q. What brought the matter to your attention?

A. We were doing some work, trying to determine whether we were going to drill our Bates 3 wells, and at the same time we learned about this particular -- about the location -- about three locations that they had, the 103, the 159 and the 415.

Q. And as a result of that coming to your attention,

as well as the Applications that were filed before this Division on June 30, 1998, have you conducted investigation and done some analysis as to the activities and the requests of Gruy to drill additional wells on 160-acre spacing units?

A. Yes, we have. We don't agree that extensive infill drilling is necessary, and so therefore we have prepared a series of exhibits on that subject.

Q. Okay. In your opinion, can one efficient well drain a 160-acre proration unit in the Rhodes Gas Pool and the Eumont Gas Pool and the Jalmat Gas Pool?

A. It's my opinion that one efficiently completed well is capable of draining 160 acres, even at these low pressures that we have at this point in time.

Q. And would you define for the Examiner what you mean by an efficient well?

A. An efficient well, I would say, is a well that's been drilled or recompleted or reworked using modern techniques, perforating versus open-hole, you know, completions, reasonable acidizing, a thorough frac.

Q. Okay, so that would exclude, for example, wells that were drilled in, say, the 1930s, 1940s or 1950s that were open-hole kind of completions?

A. Right, some of the -- those -- The wells, the earlier wells, were efficient wells in their day and

produced a lot of gas. But, you know, they're no longer efficient as far as competing against a more modernly completed well.

Q. Okay. Do you have an opinion whether or not having more than one efficiently producing well on 160 acres in this pool is violative of correlative rights?

A. It has the possibility of violating your correlative rights, that's right.

Q. And would you explain why you have that opinion?

A. Well, because if it's been efficiently completed, an operator, if he's got two wells, two efficiently completed wells on a 160, he's going to have twice as many wellbores. And -- versus -- And that's done all the time, for example, in the Jalmat and the Eumont. We've got some examples in here where you can see that the wells were capable of producing a lot more but were -- you know, production curves are influenced by the allowables.

Q. Okay, because in those pools, rather than correlative rights being protected by spacing, they are protected by the allowable system?

A. Right.

Q. Prorationing?

A. That's right.

Q. Do you have a opinion, in the case of the Rhodes Gas Pool, where there is an efficient well on 160 acres,

whether the drilling of -- and production of another well will constitute waste?

A. Oh, definitely. If you had -- you can drill a well that will drain the 160, we believe it's waste, you know, to drill two wells to do the same thing.

Q. Unnecessary, an uneconomic practice to do that, in your opinion?

A. Especially at this point in time, toward the end of the life of the field where the reserves are not sufficient -- you know, are actually getting fairly skimpy for one well, but much less having to do that over two.

Q. What were the initial pressures in this field?

A. The initial pressure was 1400 p.s.i. That's as reported by El Paso Natural Gas.

Q. And what pressures are found now with newly drilled, efficiently -- modern-completion wells?

A. The typical well is probably -- would probably encounter between 50 an 70 -- excuse me, between 50 and 100 p.s.i. Probably, you know, maybe 75 to 100 as an initial pressure.

Q. Okay. Mr. Hartman, let's go through exhibits, and let me ask you to draw your attention to Exhibit Number 25 and explain to the Examiner what this exhibit shows and its purpose.

A. Well, this -- The Exhibit 25 shows the

mathematical relationship between -- for a volumetric gas reservoir between the slope of a P/Z curve and drainage area of a well.

Q. Okay. Now, what can you learn from the information that's shown here?

A. Well --

Q. Are you able to use this in the analysis that you made?

A. Historically, New Mexico has required the reporting and has published pressure data on wells going way back in time. And so that's one of the good tools you have available to get a handle on reserves, is the plotting of P/Z curves or pressure-cum curves.

Q. Okay. I see on the first page of this exhibit, capital A equals drainage area in acres?

A. That's right. That's the final mathematical relationship for calculating drainage area when you have the slope of a P/Z curve.

Q. Okay, and would you explain the components that go into making that calculation of the drainage area in acres?

A. Do you want me to talk about the final equation?

Q. Yes.

A. Okay. Well, area is equal to -- basically, the slope of the P/Z curve, and that's expressed in MCF per

p.s.i. -- not SCF per p.s.i. but MCF per p.s.i. -- divided by basically the porosity feet of pay, times some constants, and divided by some constants also.

Q. Okay.

A. And we've also taken this equation and then simplified it further for, say, the Jalmat and Rhodes Gas Pools.

Q. That's shown on the second page?

A. That's right.

Q. All right. And is the purpose of Exhibit 25 basically introductory? That is to say, to demonstrate the mathematical methodology you use in applying the data that you'll discuss later?

A. That's right, that's exactly -- This is the premise of the numbers we'll be showing later.

Q. Okay. And is this approach an accepted one, broadly, in the industry and in the literature concerning gas-well evaluation?

A. Well, it's discussed in Craft and Hawkins, and we've thrown some -- Craft and Hawkins, you know, being an introductory reservoir-engineering book. It's discussed on pages 39, 40, 41.

Q. And is Craft and Hawkins a standard text and resource for --

A. I think most schools use it.

Q. All right. Is there anything else that you wanted to explain concerning Exhibit 25?

A. No, this is just to show where we're coming from mathematically.

Q. How you calculate a drainage area?

A. That's right.

Q. Okay. Let's go to Exhibit 26, then, and explain what that shows.

A. Well, knowing that the drainage area -- one of the components that you need to calculate a drainage area is hydrocarbon feet of pay, the next exhibit focuses on hydrocarbon feet of pay for the Rhodes Pool.

Q. Okay, and what does it show regarding hydrocarbon feet of pay?

A. This is a multi-page exhibit. The first one is just -- is a summary of numbers, one of the numbers that Meridian apparently has used for their hydrocarbon feet of pay. And then also, it also shows what we have calculated independently of Meridian. As a matter of fact, when we ran across the Meridian document, you know, we had already done these calculations. But it struck us as very interesting that they were very close numbers.

Q. All right. And what did you calculate? What had you already calculated?

A. When we ran our calculations, we used -- these

particular calculations use our Base Number 3 well, which was drilled in June. And we used two different water resistivities to calculate water saturations, and then have just done our calculations, you know, for both water saturations.

Q. Okay.

A. And I can show you. But the first pages -- the first two pages just summarize the end results.

Then when you turn over to the third page, we have a log on our Bates Number 3. It gives us the crossplot porosity for the Yates -- what we consider to be the Yates porosity section. This is not the entire Yates interval but the porous part of the Yates section.

And this particular log presents on the very left-hand side the crossplot porosity. We also have calculated porosity times water saturation. So the amount of pore space that contains connate water.

And then we also have calculated the water saturation of the invaded zone.

Q. Does the information here provide values concerning what Mr. Lee referred to as the porosity cutoff?

A. Well, we'll show you how we did ours and how we arrived at our conclusions. The reason we calculated saturations for both the connate situation and the invaded situation is to get a handle on what's permeable.

Obviously, there's some -- quite a bit of porosity in the Yates interval. However, a portion of it is not necessarily commercially permeable in our opinion.

Q. In a later exhibit, do you show your calculation of the porosity cutoff?

A. Well, it will -- actually, it will be -- I'll show you how we get there. It's all contained in this one exhibit.

Q. Oh, okay. Well, why don't you proceed --

A. Okay, what we did, after we went in and analyzed where we had -- what I call an invasion profile, where you actually had invasion occur, we're dealing with --

Q. Are you talking about water invasion?

A. Yeah, from the drilling process.

Q. All right.

A. Right, this is water invasion from the drilling process. When you're drilling, you know, you have a hydrostatic head of maybe 1400 or 1500 p.s.i., and if you have permeable zones, you're going to have a certain amount of leakoff into those permeable zones. And those zones that have decent permeability will show an invasion profile.

Those that the calculated -- the saturation of the invaded zone, where it's approximately equal to the connate water saturation, that's telling you that you do

not have a lot of permeability, or it hasn't been depleted. And there's enough wells that have been drilled and completed and produced in the Rhodes Pool to have affected every zone in the pool, as far as the Yates interval is concerned.

So what we -- The first process is to identify what's permeable. Then we happened to have all the log data digitized, in a digitized form. Then we calculated our -- did our log calculations over those intervals that were permeable.

Q. And that log data is --

A. That's the tables that follow the --

Q. These tables, these long --

A. Yeah, right, that follow it. And it's broken up into two sets of calculations, one set for Rw is equal to .03 and the next set for Rw is equal to .05.

And what you can do -- The first eight pages of the tables contain the calculations, and on like page 8 of the table gives you the final results of the calculation for Rw is equal to .03.

Q. Okay, where it comes -- where you kind of come to a --

A. That's right.

Q. -- bottom line, the first eight pages.

A. You've found page 8.

Q. All right.

A. So the final three columns, for example, the next to the last column on the right-hand side, that's poros- -- that's the hydrocarbon feet of pay, 12.977 is the cumulative number of all these calculations.

Q. All right.

A. And then the porosity feet, by itself, is 19.76. Knowing that -- Having that information and knowing how many net feet of pay you have, then you can calculate what your average water saturation is, your average porosity, and -- you know, you can know those components.

To determine what your cutoff is -- We didn't actually do a porosity cutoff; we did the calculation on what's permeable. But you can go back, and you'll see there's very few -- very little pay section that's included -- or section that's included in here that has a porosity less than 15 percent. There's maybe a couple of feet.

Q. Okay. So if you were going to put it in terms of a correct porosity cutoff for this formation, would then you say probably 15 percent?

A. I'd say 14 to 15 percent, but closer to 15.

Q. All right. Then on the next table page is the same kind of calculation, only using a different water saturation?

A. It's just -- Right, just a different water

saturation. It uses a resistivity of .05 instead of .03, but it's the identical calculations otherwise.

Q. Okay. And that basically brackets the hydrocarbon-feet that you put on the summary, on the beginning?

A. That's where we came up with our two numbers. Now, granted, you know, there will be -- Every well is not going to be identical in that pool. But this is a good, representative number.

Q. All right. With this information, then, what are you next able to do in order to address the question of a drainage area for wells in this pool?

A. Well, what we did is, we started looking at -- we took -- looked at Rhodes information. We also looked at wells in the Jalmat, which are essentially the same animal. As a matter of fact, the Rhodes was part of the Jalmat at one time. And -- Because we happened to have some good data on Jalmat wells during the modern -- what we call the modern era, in more recent times, versus, you know, the early days when this area was first drilled.

But before we get to that, we do have a curve where we've taken and applied the equations that were in Exhibit 25 and presented drainage area for the two different hydrocarbon-feet of pay, versus m factor or P/Z slope, to get a handle on what a certain P/Z slope equates

to in drainage area.

Q. In sort of a simplified term, is that what the m factor means --

A. The reason I use m --

Q. -- drainage area?

A. Yeah, Craft and Hawkins uses the term m for slope, so that's the reason I call it m factor, just from the fact that it was referred to as m in the equations of Craft and Hawkins.

Q. Okay.

A. We've used this technique for a long time.

Q. Okay, so explain how this, then, on Exhibit 27, explain what this graph shows and how you use it.

A. Well, if you plot a P/Z curve and determine what the slope is in terms of MCF per p.s.i. -- and the reason we use that, that's -- production is reported in terms of MCF, and so we do our plots in MCF. And -- But the slope, in MCF per p.s.i., if you know what that is, just go vertically until you intersect the curve and then go left, and you've got drainage area.

Q. Okay. So just for an example --

A. You've got reasonable estimate of drainage area.

Q. Right. As you go through on a well and you calculate and you come up with your m factor and it's 10,000, then the drainage area would be -- depending on

which hydrocarbon footage factor you use, it would be -- the drainage area would be somewhere around 300 acres?

A. Probably 340 to 380.

Q. Okay.

A. Assuming that -- you know, that the hydrocarbon feet of pay did not fall outside of those two numbers.

Q. Okay, all right. Let's keep this exhibit kind of where we can refer to it as you go through the rest of your work here, and now let's turn to the --

A. And we might want to -- I don't know if we stated it, but this is Exhibit 27.

Q. Yes.

A. Okay.

Q. Thank you. And now, with Exhibit 27 there where we can refer to it, let's turn to a derivation of the m factor for wells in the Rhodes Gas Pool. Have you done work of that sort?

A. Have we analyzed m factors for the Rhodes Pool?

Q. Yes, for wells -- specific wells in the Rhodes Pool?

A. Yes.

Q. Okay, what was the time period of your investigation?

A. Our time period in the Rhodes Pool actually concentrated on from the time of discovery until about

1944. The reason that we chose that time period, we happened to have data available, and from 1944 until 1982 it's a storage unit, so this technique would, you know, not be applicable.

And then from 1982 on, you'd have a lot larger well density than you do in the earlier period, so it's harder to get a handle of what the reservoir is capable of yielding up, if you have a properly completed well.

Q. Okay. And you say you happen to have data for that early period, initial completions up to 1944?

A. Right, the reason we have that data available, as El Paso contemplated converting the Rhodes Gas Pool -- or the Rhodes Pool at that time is what it was called; it was the Rhodes Pool -- to a storage facility, they had to file a plan of operations with the USGS. So they had a lot of good engineering data that was filed with that application, as far as pressures and cums were concerned.

Q. Okay. So what did you find, Mr. Hartman, as to the drainage factor, or m factor, as you call it, for wells in this pool?

A. Well, we found, for example -- One thing we might want to do is look at Exhibit 28 first.

Q. Okay.

A. This is an old map. It's actually a few years younger than 1944, but basically in that era. And what we

have on the map on Exhibit 28, we have circled the wells that El Paso defined as the gas wells, and there are sour-gas and sweet-gas-producing areas of the Rhodes Pool. And I believe there's about 17 wells on here.

Q. Okay.

A. So this gives us a pretty decent handle of what the pool looked like at the time it became a storage facility.

Q. And are there some significant pieces of information here?

A. Yes. Actually, the -- We have calculated slopes ranging all the way up to 32,000 MCF per p.s.i. of pressure drawdown.

El Paso, I think, in their reservoir-engineering calculations, used per effective p.s.i. pressure. They use the word "effective p.s.i." --

Q. Okay.

A. -- that being defined as the point -- the pressure point between there and abandonment pressure.

Q. Well, I notice there's a listing of the wells with their production up to January, 1942. The Rhodes A1 is the first one shown. Was that the discovery well?

A. The Rhodes A1 was the discovery well. It was drilled, and I believe it was completed, in October of 1927, but did not go on production until 1929 because

that's when El Paso Natural Gas was founded.

It was founded prior to that, but they got the pipeline finished, and the first gas was delivered or started flowing through the pipeline system on June 9th, 1929. And the Rhodes A1 was their first supply well. This is a very historic well.

Q. It had produced how much over that time period, up to the --

A. Up to --

Q. -- up to the point where it became a storage unit?

A. Up to January 1st of 1942, it had produced 13 billion. What they did, they didn't get around to doing the storage unit for two more years, and I think they apparently had done their original calculations based on January of 1942, but then World War II came along and some equipment and materials became less available, which slowed up their storage project for a couple years. So they -- These numbers were done for 1942.

And then there was an additional 13 billion that was produced for the years of 1942 to 1943, bringing the total for the pool up to around 79 billion cubic feet by 1-1 of 1944.

Q. Which brought -- that -- Historically, that would bring it, that 79 BCF would bring it up when it was turned

into a storage unit?

A. Just about when it was turned into a storage unit.

Q. And would we understand that those wells that had produced that quantity of gas from this pool would not be properly characterized as what you would call today an efficient producing well?

A. Well, they're no longer efficient, but they were very efficient in their day and time.

Q. Yeah, but I meant as far as modern completion --

A. No.

Q. -- techniques?

A. If you put two wells at the same pressure together, you know, these completions in a modernly completed well, obviously the modernly completed well would perform a lot better at current pressures. But these were excellent wells.

And what we're really focusing on here is what the reservoir is capable of doing.

Q. All right. And does that -- the information on Exhibit 28, then, give you some capability to begin to calculate drainage areas?

A. That is right, that's the basis -- From those numbers, a person can arrive at a pretty fair estimate of what the drainage areas was for each -- what the drainage

area was for each of the initial wells in the Rhodes Pool.

Q. Does Exhibit 29 show that calculation?

A. Yeah, Exhibit 29 is actually a tabulation. This was mainly to map, and one of the tables in Exhibit 29 is at the bottom of the map. But we actually have a series of tables, and the plots that back them up, and the original El Paso data, is all in Exhibit 29.

But the summary is right, say, on the top sheet here of Exhibit 29.

Q. All right. Is there any more explanation that you want to make concerning Exhibit 29?

A. Well, you can use either the first page or the second -- or the third page, excuse me. Yeah, right, the third page.

The third page, we have P/Z slope calculated or listed out from the largest down to the smallest slopes, sorted by, you know, maximum P/Z slope --

Q. Uh-huh.

A. -- showing that the Cagle A2 had a demonstrated slope of 32,000 MCF per p.s.i. The lowest one for which we have a value is the Gregory B1 at 2342 MCF per p.s.i.

Q. Okay.

A. And most of the wells -- One of the things you can say, most of the wells, all of them but four, have a demonstrated drainage area in excess of 160 acres.

Q. Now, is that value of MCF per p.s.i. valid if the reservoir pressure is 1000 pounds, versus if the reservoir pressure is 100 pounds?

A. Yes. What you're doing, you're not -- Obviously a well at 1000 pounds and say a slope of 10,000 is going to make a lot more gas than a well that has 10,000 slope but only 100 pounds initial pressure. But they both are illustrating the same -- essentially the same slope.

Q. Same quantity of gas --

A. Right.

Q. -- per 1 p.s.i. of pressure?

A. And one of the things I want to point out here, if you want to look at the curves behind, you're going to see that wells illustrate different slopes at different times in their life.

And for example, we can turn to the Rhodes A1. The Rhodes A1 was the discovery well. It had an initial slope of approximately 21,000 MCF per p.s.i. The Rhodes A1 and the Cagle A1 wells produced -- were essentially the only two producing wells, gas wells, until 1936. Then additional -- El Paso started performing additional drilling. Over about a two-year period the slope of that Rhodes A1 turned downward as it started competing with other wells nearby.

Q. Well, would that say to you that there was good

communication between the wells in this field?

A. Yes, we believe there is good communication, excellent communication, really.

Q. And this is reflected when only -- there were only six wells drilled?

A. What was -- Ask that again.

Q. Well, you see the effect on the slope on the Rhodes A Number 1 by just the addition of five wells?

A. Yes, it had an effect on it, that's correct. Actually, it turns out, the slope that it finally went to before the storage project started was about one-third of the slope it had been exhibiting prior to that, saying that it was -- after additional drilling started occurring, it was only draining about a third of the drainage area that had previously, you know, been drained before.

Q. And in your opinion is that because the communication drainage --

A. Yeah, you have good communica- -- Good reservoirs will show P/Z slopes like this.

Q. Okay. And is this a good-permeability reservoir?

A. We think it's a high-quality reservoir for the Permian Basin.

Q. Anything else that you want to --

A. And when I say that, I'm not comparing it to places like Sonora that's got tight sands or the Abo, you

know. Those are what I call tight reservoirs. This is good-quality stuff.

Q. Anything else that you want to point out on your Exhibit 29?

A. I think we've covered most of it.

Q. Okay. Now, is Exhibit 30 addressing specifically the Rhodes A Number 1?

A. Right, this is the -- This is the history of the Rhodes A1 as far as production and pressures is concerned.

Q. Does this take a -- one well example to show how you get your m factor or your drainage factor?

A. Well, it -- yeah, it does that. But also the reason we use this one is, this was the beginning. This well was not only the discovery well for the Rhodes Pool, it was the discovery well for Southeast New Mexico or the southern part of Lea County.

Q. It was probably the discovery well for New Mexico, wasn't it?

A. No, I don't think -- I'm not sure. But it was an early.

Q. Okay.

A. It was discovered about a year after the Hendrick field was discovered in Texas, and that was the first well on the west side of the Central Basin Platform, or the first field. And not too far, you know, north of the

Hendrick.

Q. Okay. So what is the significance of the information that's shown here?

A. Well, again, we have the same pressure-cum slope incorporated in this package.

We also have the pressure-cum slope, the more modern one, from 1983 through 1993. And we have a pressure-time curve, or a composite pressure-time curve, that shows -- I think, illustrates the good communication in the reservoir. It starts in 1930 and goes through 1945, and the initial pressure for the Rhodes A1 was 1400 p.s.i.

But the Rhodes A1 and the Cagle A1 were essentially the only wells producing during the early years.

So when the drilling started taking place in 1936, you can see what the additional wells, what their pressure curves looked like. They come in at a pressure very much along the pressure curve of the Rhodes A1, showing that the Rhodes A1 was draining the area that these wells were located in.

Q. And they follow -- The decline is pretty much on a parallel basis from that point on to 1944?

A. That's right.

Q. Okay.

A. And this is all taken right out of El Paso's

data.

Q. Okay, again showing the good communication between wells?

A. Yeah, I -- We think that's excellent communication.

Q. All right.

A. Especially at the pressures we're plotting here.

Q. All right. Now, from this point, then, skip over the storage unit area, and do you have some information and things as to the 1982-to-present era, when once again the Rhodes Gas Pool became a pool that was producing the true reservoir native gas?

A. Well, the next groups of wells that we've got here are -- They're not necessarily in the Rhodes Pool but just to the north in the same zones, in the same reservoirs. And the reason we did these is to show, when you're dealing at low pressures, relatively low pressure, what's still possible in a high-quality reservoir, as far as the completion is concerned, if a well, you know, is -- doesn't have competition for the gas.

Q. And does it show what's also possible in terms of drainage area, even though the pressure --

A. That's what I'm saying. It shows that it's possible to achieve a drainage area in excess of 160 acres, which is the spacing for the Rhodes Pool. And that's what

I think we have to be able to show, is that one well can drain 160 acres.

So -- But we can show that wells can drain in excess of 160 acres.

Q. All right. So is there one of these wells -- we don't want to go through all of them -- one of them that you just, by way of example, explain how you made your calculation and --

A. Okay, what I'll -- I'll go through these two tables. We've broken it out into two different groups of tables.

Q. Okay, and those are Exhibits --

A. -- 31 and 32.

Q. Okay.

A. Each table -- There's five wells in each group. One group that we chose is, we chose where basically you were drilling the replacement well at -- the replacement infill well at, you know, essentially the same location as you drilled -- as the original well was drilled. That's to show that you still can come in and get a very good completion, because it's draining a much larger area than just a little, small area.

Q. That's Exhibit 31?

A. That's Exhibit 31.

Q. Okay. So those five wells were drilled very near

the well -- the old well --

A. Previously existing well to the same zones.

Q. Okay.

A. And we can walk through, say, like the Lankford 2, if you want to, like this one. The Lankford 2 is a Jalmat well located in Section 25 of 23-36. It was a 120- -- It is a 120-acre proration unit. The original well was located in Unit G of Section 25, and the infill well was drilled at that same location.

So in each package, on each well, we have a plat showing the proration unit, the wells under consideration, and also surrounding wells.

Q. Now, these five wells on Exhibit 31 have an average m factor of 11,989?

A. That is correct.

Q. So if we go back to Exhibit 27, which I asked you to --

A. Yeah, and I want to qualify one thing when we say "average" and when we talked about m factor. We're talking about the maximum slope that's been demonstrated by the well. The slopes, you know, can change with time.

Q. All right.

A. Okay.

Q. But is this the indicator that one can use to get an idea of the drainage area?

A. That's right.

Q. Okay. So I'm just picking the average instead of one well, just for purposes of convenience, but if we say it's 12,000 and we go back over to Exhibit 27, then would that indicate a drainage area of, oh, say 350 to 380 acres?

A. That this group of wells, these five wells here, had a drainage area -- have demonstrated a drainage area in the neighborhood of 320 to -- or 340, say, to 380 acres.

Q. And these are replacement wells being drilled on a proration unit which it already had production from the old wells?

A. Yeah, a previously producing proration unit.

Q. All right.

A. And it encountered pressures that are a little bit higher than the Rhodes is today, but still of the same order of magnitude. We're talking about over 100 pounds instead of less than 100 pounds. And some of them -- a couple of them in these examples are less than 100 pounds.

Q. Now, is Exhibit 32 an example set of wells in the Yates-Seven Rivers where the new well is not in close proximity to --

A. Well, it's removed 40 acres or so.

Q. All right.

A. Yes.

Q. And you've got the same data there, initial

pressures, m factor and so forth?

A. That is correct.

Q. And in this case, if we look at, again, an average and say it's -- call it 15,000 MCF per p.s.i. and go back to your Exhibit 27, we would say, then, that you're talking about draining 400 acres, or maybe a little bit more, with that well?

A. That is correct.

Q. Okay.

A. That's not to say that every well that we've ever drilled has done this, but this particular group of wells were excellent wells that also apparently were not encountering serious competition, you know, by offset leases.

Q. And each of these wells would be what you'd call an efficient well, modern kind of completion?

A. Yes, they're very efficient wells, there's no doubt about that. And that can be -- I think -- let's go back through the -- We can pick one of these again. We can take the Shell State 5 if we'd like, the first one --

Q. On Exhibit 32?

A. Yes. And you can see from the production curve the level of the production of the existing well at the time that the infill well was drilled, the production, where it was at the time the well was drilled, and what the

new well was capable of doing.

Also, you need to keep -- a person needs to keep in mind that the new well was -- these became nonmarginal proration units when the new well was drilled. So therefore the production that was allocated to the new well was equal to the allowable less the marginal production that went to the original well.

Q. Okay, does that explain some of these gyrations in the production curves?

A. Yeah, that's the reason you have the gyrations in the curve up until, say, around 19- -- well, this one turned out to be 1990. In 1990, this well went on capacity, about January of 1990. But prior to January of 1990, it was a top-allowable well.

Q. So that its production was constrained to a certain extent by the allowables?

A. Right, the first, early part of the curve is.

Then, if you look on the same -- on the production curve, if you look down at the bottom, you can see the pressures. Pressures, you know, of the first well and the second well coincide very closely.

You can also see from the cum curve that approximately, you know, 1.2, 1.3 billion cubic feet of gas was added, so far, by the Shell State 5.

Then you turn to the next page, and that's what

we call a composite pressure-cum curve. We have the pressure-cum curve for the original well and the pressure-cum curve for the new well. And you can see that the slope is much more shallow on the new well, showing it is a highly efficient completion relative to the first well.

Q. Okay.

A. And then behind the cum curve, we also have a pressure-time plot for all the wells, including the Shell State 5, the Shell State 5 and the wells immediately surrounding. And you can see again, there's good communication pressurewise between the various wells in this area.

Q. Okay, basically you've got a nine-well group in an area there?

A. Let's see. Yeah, it's nine, that's correct.

Q. All right. And their pressures are following a decline basically parallel?

A. That's correct. And you know, you'll see -- on a couple of them you can see spikes.

And past experience -- I've had to even check to see which well that was, but past experience has taught me generally, that's an open-hole completion. You'll have some, you know, real tight zone that's maybe got a little higher pressure, maybe a little fluid in the well, and so on some of the shut-ins it might demonstrate a higher shut-

in pressure. But say it's been swabbed or something prior to another shut-in a year later, a year later it will be brought back on the curve again.

Q. Okay. And Mr. Hartman, do these studies confirm your opinion that one good well in this reservoir will drain more than 160 acres?

A. Right, if there's not real competition, or as you say, if the well density were less, it would also, as illustrated by the original wells in the Rhodes Pool.

If you had -- for example, if you had all efficiently completed -- if every well in a pool were efficiently completed, then the drainage area for each well would be equal to the spacing, the effective spacing it was on.

Q. In other words, what you're saying is, the competition would keep it to that, otherwise --

A. Right.

Q. -- without the competition it would be draining 200 or 300 acres?

A. Right, it would -- It could drain more. So what it's saying is, if you've got a well that's capable of draining 160, or -- and you can drill a well that's capable of doing that, then there's no need, it becomes a waste to drill more wells because they're not necessary.

Q. And can the rework of an old well just as

adequately be an efficient well as a newly drilled well?

A. That's right. If -- let me -- In a lot of cases, it is. Sometimes I -- Maybe you don't feel like you would have as good of a wellbore opportunity, and you might need to drill a new well.

Q. Okay. What is Exhibit Number 33?

A. Let's see, 33. Okay, 33 focuses on southwest quarter of Section 4. Actually -- As a matter of fact, that's the tract that's a part of this Application of Gruy's. And it contained what was called the Farnsworth C Number 1 well, now the RFU Number 41 well.

Q. All right. And did you develop an m factor for the Number 41 well?

A. Well, it turns out that the 41 was completed October -- I think it was October 17th, 1939. I take it back, it's October 13th, 1939. And that happened to be data for -- that we have from El Paso's data, so -- and it had a slope, illustrated or demonstrated an initial slope of 16,900 MCF per p.s.i.

Q. Okay. And if we go back to your Exhibit Number 27, what would that indicate in terms of the area that could be drained by this well?

A. That would be in the neighborhood of 500 acres, plus or minus.

Q. Okay. Well, the one existing well, the Number

41, on that 160 acres can drain and would drain more --

A. It did -- It was draining in that neighborhood, that's right.

Q. Yeah. What --

A. Before a lot of wells were drilled. And as a matter of fact, historically, from a historical perspective, a lot more gas was being produced back in the 1930s from the Rhodes area, say, from -- you know, in 26-37 than was being produced to the north in 25-37, because that was more oil to the north.

Q. All right.

A. And, you know, the gas was basically behind pipe. That was before the Jalmat and the Eumont Pools and so forth were formed.

Q. What else does Exhibit Number 33 illustrate?

A. Well, we happen to have information on completions on the three wells on that particular proration unit, we have the production histories, pressure histories. Again, we have another -- We have the pressure-cum histories of the Farnsworth C, as well as several of the wells around it, especially the Cagle A1 and the A2.

The Cagle A1 was the really big well in the Rhodes Pool. By 1-1-44, it had produced over 20 billion cubic feet. It was an excellent well. And it's located in Section 9, just to the south. And its pressure, initial

pressure, was 1400 p.s.i., just like the Rhodes A1. and it went on production in 1929 also.

And as you can see, after -- that the Cagle produced by itself for a number of years, up until around 1936. Then, as additional wells began to be drilled around it, most of those wells came in at pressures in the neighborhood of what the Cagle A1 was at that point in time.

Q. Okay. Now, Mr. Hartman, you understand that this quarter section and the wells here, speaking broadly, are the subject of Gruy's Application in Case 12,015?

A. That's right.

Q. All right. And what is your position concerning the Application and what's sought by Gruy?

A. Well, my position is that one efficiently completed well could -- and can drain 160 acres.

Q. Okay. And if Gruy chose to rework the 43, as was done, and shut in the 41, would then you have any opposition to that --

A. No, I can understand their desire maybe not to continue to produce the 41 because it's not -- you know, it's of a different vintage.

Q. All right.

A. A good well in its day, but not necessarily a competitive well today.

Q. Or if they elected to not produce the 43 and 41 and drill their new well, which they call the 415, again, would you have no opposition to that?

A. I don't have any opposition to them producing one well.

Q. Okay.

A. The rules provide for it, to have that right.

Q. And would any one of these three wells drain this proration unit or more?

A. I'm not sure about the 41 --

Q. Okay.

A. -- today. I'd have to really, you know, study it in detail because it is an open-hole completion. And I think it's been frac'd, but it's difficult to get as an effective frac job, you know, in an open hole as it is where you have pipe and perforating, can control the frac to some degree.

Q. Okay. So your position of proper outcome would be if the 41 could be P-and-A'd and production could be in the 43?

A. It's their election, not mine.

Q. All right. Do you have Exhibit 34, which provides some --

A. One thing I would like to illustrate again, that I just noticed here on this particular Exhibit 33, we have

a pressure-cum curve about midway through the package -- or a pressure-time curve, I mean, for more recent times from 1976 up to the present. And as you can see, when the 43 was drilled, the pressures came right in at just about what you would predict it to be off of this composite curve.

Q. Came in at what?

A. They reported a shut-in bottomhole pressure on the Number 43, I believe, of 85 p.s.i. But right -- You know, well in the neighborhood of what you would expect from this particular plot.

Q. And which would be indicative of the communication --

A. Right.

Q. -- good communication that we talked about?

A. That's right.

Q. All right. On that point, does Exhibit 34 provide for the Examiner composite information concerning pressures?

A. Yes, it does. This one, basically, it's -- The exhibit has both production and pressure information. At the bottom of the exhibit is -- we have a pressure-time plot, where we've thrown all the pressures in the Rhodes Pool on one plot.

Q. Since 1982, since the -- since what we call the modern era of this pool?

A. Right.

Q. Okay. And what did we learn? Once you've put all the pressures of all the wells here, what do you find?

A. That the most probable outcome is going to be between 50 and 100 p.s.i., if you look at it statistically.

Q. All right. Well, but does it tell you that essentially all of these wells fall within the parameters of a certain pressure zone?

A. Yeah, it's showing there's good communication. If there weren't good communication then you would see wells coming in, I believe, at a lot higher pressures, because they wouldn't be affected by the offset production.

Q. Okay.

A. But when the band, pressure band, is pretty concentrated like this, it's showing good communication.

Q. Do you have any comment concerning Mr. Lee's exhibit where he had an example of three wells which, to him, supported the conclusion that there is not good communication between wells?

A. Well, I don't remember the three; I remember two of them. One, I believe, was over on the west side, and if I'm not mistaken the other -- one of them, I think he mentioned, was 102 --

Q. Well, the 81 and the 82 were in the northeast of 8.

A. Okay.

Q. And then the other one was in the northwest of 10.

A. Okay. See, those are -- The geology has changed as you go across there. You're starting to get -- on the west side, you're getting more into an upper Yates development, whereas on the east side it's middle to lower Yates. We call it lower Yates but, you know, you could -- somebody -- some people might call part of it middle Yates, because it's in the middle of the Yates interval.

But you can divide the Yates deposition up into lower Yates on the east, upper Yates on the west. And that's all the way up and down the platform, from Eunice south.

Q. But does your data show --

A. There are two different geological systems, just to start with.

Q. Okay.

A. So, you know, you can't -- Just because there's differences in pressure does not necessarily say there's not good communication.

Q. All right. Well, does your investigation indicate a general uniformity of pressure among all of the --

A. Yeah, the -- I think these curves show that.

Q. Okay. You have another exhibit here, Exhibit 35, recoverable gas reserve. Would you explain that exhibit?

A. What that is, that's just a graph depicting a series of volumetric calculations where we've utilized -- is -- Let me see here.

Okay, we've done it for two different -- Again, for the Rw of .03, for an Rw of .05. We've got two curves. This Exhibit 35 has got actually two curves to it. And you can -- Along the X axis we have acres per well.

Then we have for -- different curves for different initial pressures, and then computed recoverable gas reserves on the Y axis, all assuming an abandonment pressure of 15 p.s.i.g., which is essentially what the gathering system is.

Q. Okay. Show us how we would read this. Let's assume that you have an initial pressure of 75 p.s.i.a.

A. Okay, if you had an initial pressure of 75 p.s.i.a., assuming that you had approximately 12 hydrocarbon-feet of pay -- this one is actually for -- it would be 12.98, at 75, 160-acre spacing, you could expect a recovery of approximately 300 million for a well.

But if you have two wells per 160, then the recovery is going to be reduced to half of that on a per-well basis.

Q. You'd go over to about 80 acres?

A. Right.

Q. If you have --

A. If you have two efficiently completed wells, say on a 160, then that's essentially 80-acre spacing. Now you've reduced your recovery per well to about half.

Q. Or about a hundred and --

A. -- fifty --

Q. -- fifty --

A. Yeah.

Q. -- thousand?

A. Yeah, 150,000 MCF.

Q. And what is the significance of that in terms of the issues of waste?

A. It's waste, it's waste to have to drill, to drill more wells than is necessary to drain the acreage.

Q. And to drill more wells to recover just 150 million cubic feet?

A. Well, what you're doing is, I don't think you're going to add too much to the reserves; you're just going to drill more wells to get it. You know, you -- It's my strong belief you're going to get most of it with one well.

Q. Now, did you prepare Exhibit 36 to provide for the Division just a general overview of this pool and the existing wells?

A. It was done under my direction, yes.

Q. All right. And is that the purpose of it, kind of as a reference?

A. What it is, it's basically showing the outline of the pool, the Rhodes Gas Pool. It shows the proration units. It also has -- From a well standpoint, the blue dots are the wells, Rhodes gas wells, that were approved under Order -- What is it? R-68- -- What is that number, -71?

Q. 6891.

A. -- 6891, in -- that was effective 1-1 of 1982. Those are the wells that, if you look in that order, you'll find that were approved for the Rhodes Pool as gas wells.

Q. Is it true that at that time, because of what had been previous drilling practices, some wells, some 160-acre units that had two wells, were approved, and in effect a grandfathering in of more than one well per 160 acres --

A. Right.

Q. -- in a few instances?

A. What happened in the history of the pool, of this pool, El Paso, along the way, mostly in 1973, drilled additional wells, because this was a storage project. And so you wound up with multiple wells on some of the proration units at that point in time. Obviously, you've got those wells, they have an application, and it would be a waste to abandon those wells.

But -- Those wells were approved, but it was also approved for this to be a -- not -- their application requested that the pool be defined or designated as an unprorated gas pool, or nonprorated gas pool, operating under the rules, the applicable rules for nonprorated pools.

Q. And that rule, as we heard before, would be one well per 160 acres?

A. That's one of the constraints in a nonprorated pool.

Q. Okay. All right. And finally, Mr. Hartman, did you -- You also have a few cross-sections here to offer, and I don't want to take a lot of time to go into detail, if --

A. Yes, we do. We have a series of cross-sections. The A-A' -- We actually had two A-A'.

Q. You're referencing Exhibit 39 now?

A. That is -- Well, let me see. Let me see that, yeah, all right.

Q. The cover map is 39?

A. I have one that's just -- the map --

Q. 37.

A. -- is 37.

Q. -- is 37.

A. The map is 37. These are attached.

Q. Yeah.

A. We have three cross-sections in the Rhodes Pool itself.

A-A' is essentially a north-south cross-section. It's going up through the lower -- what we call the lower Yates trend.

B-B' sort of parallels the gas-oil contact, just to show that, you know, if you get south of that gas-oil contact, now you'd have gas-oil wells in the pool versus gas wells to the north.

And then we have C-C', which is diagonally -- you know, running from southeast to northwest, or northwest to southeast, but basically in an east-west direction, showing the changes, some of the changes that occur as you go across the pool from east to west.

Q. Do your cross-sections mainly serve to demonstrate that this reservoir is essentially uniform for miles --

A. Yeah, well, in the --

Q. -- through this area?

A. Within the Rhodes Pool. And then in addition, we also have another -- Okay, that would be Exhibit 38, another A-A', that really does that. This one goes for 35 miles, showing the same trend. But it continues on, you know, it doesn't stop at 26 South, 37 East.

Q. Okay. Why don't we take just one of the cross-sections, Mr. Hartman, open it up and just show Examiner Stogner what we've been talking about as far as the uniformity of this formation across a wide area?

A. Well -- What do you all use for a tackboard?

Q. Here, I'll just hold it. Why don't we just -- Which one do you have, Mr. Hartman?

A. That's A-A', stay within the Rhodes Pool.

Q. Okay, we'll be the tackboard.

A. You can see it runs from, I think, Section 26 down to the southeast and all the way up to Section 34 in 25 South, 37 East, in the Jalmat Pool. But it shows basically -- The predominant development through here is a lower Yates --

Q. "Here" -- When you say "here" --

A. Okay, that's right, on the transcript.

The development, the lower half to two-thirds of the Yates section is the porosity section, what we're calling the lower Yates. And there's a tight streak that's common throughout all of Lea County, or the productive part of the trend in Lea County, right here, that separates two sands or some sands right below this tight streak from some sands that lie above it. But this is what we call the lower Yates trend. It's the lower half to the lower two-thirds. And that's the main pay, over on the east side of

the trend.

Q. Okay, is there any significant difference -- I mean, recognizing that each well may encounter some different stringers or so, but is there any significant difference across this cross-section in the reservoir?

A. You have the main same producing interval as a whole. There may be some stringers that will come and go. For example, if we look at C-C' we'll see, as we go from east to west, we start getting development building up the hole in the Yates. And then, say, when you get over to the southwest part of 4, you have the top -- from the top of the Yates down is the pay. But you're getting less development in the lower.

Q. Okay. And if I understand you -- and I don't think we need to take the time to go into it -- as I understand it, if we went into Exhibit 38, that's basically a cross-section that would take us all the way north from the Eumont, down through the Jalmat, down to the Rhodes Pool?

A. Right, this cross-section begins from the Rhodes, it goes all the way up to the Eumont Pool, just west of Eunice.

Q. All right.

A. And it's about 35 miles.

Q. And what would that demonstrate?

A. It demonstrates you've got a gas reservoir that starts in the Rhodes Pool and continues all the way until you drop off the platform west of Eunice, all one common accumulation, initially.

MR. GALLEGOS: That completes our direct examination, Mr. Examiner, and we'd move the admission of Exhibits 25 through 38.

EXAMINER STOGNER: Any objection?

MR. GALLEGOS: I think 39 was admitted. Well, I'm not sure. I'll move 39.

MR. CARR: And we have no objection.

MR. GALLEGOS: Pardon?

MR. CARR: No objection.

EXAMINER STOGNER: Okay, Exhibits 25 through 39; is that correct, Mr. Gallegos?

MR. GALLEGOS: I'm sorry, sir?

EXAMINER STOGNER: 25 through 39?

MR. GALLEGOS: Yes, sir.

EXAMINER STOGNER: Will be admitted into evidence at this time.

Thank you, Mr. Gallegos.

Mr. Carr, your witness.

MR. CARR: Thank you.

MR. KELLAHIN: Would you like me to go next, Mr. --

EXAMINER STOGNER: Well, I'll --

MR. CARR: I don't care. I have not a very lengthy cross, but if Mr. Kellahin wants to go ahead --

MR. KELLAHIN: I may cause something to occur to Mr. Carr's case that gives him a chance to go last.

MR. CARR: That makes me nervous, but I don't object, Mr. Stogner.

MR. GALLEGOS: Can we take a recess and decide this?

EXAMINER STOGNER: Mr. Kellahin, what --

MR. CARR: I have no objection to Mr. Kellahin going next, Mr. Stogner.

EXAMINER STOGNER: Okay, I'm assuming that you're in opposition to Gruy's Application --

MR. KELLAHIN: It appears that I've --

EXAMINER STOGNER: -- and you're supporting --

MR. KELLAHIN: -- positioned myself at this point in that position.

EXAMINER STOGNER: Okay. Then in that case, since there's no objection, go ahead.

EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Hartman, I'm going to ask you, sir, to comment on Mr. Lee's methodology, if you will, and I'm going to share with you some of his work product and see if

I can understand how the two of you have come to some substantially different conclusions.

A. Okay.

Q. I'm using the Gruy Exhibit 13, which we received after lunch, and the bubble map.

Now, Mr. Hartman, if I understand Gruy's argument, it goes something like this, that apart from the fact that they failed to get prior approval for the two increased density wells, they're here today to get those approved, and based upon Mr. Lee's work, it creates the opportunity to argue that from their position drainage is small and therefore there is no harm in having the additional density.

Mr. Lee wants to support that argument by this bubble-map concept, which, as I understand it, is based upon the volumetric calculations, examples of which are Exhibit 13. And if you'll turn with me to the first page of Exhibit 13, he has showed us his values for what I characterize as a conventional volumetric calculation for the Rhodes Federal 41 well.

A. Okay.

Q. And by that methodology he shows us that despite the fact that that well is going to ultimately recover 6.6 BCF of gas, it's only going to affect 143 acres. Therefore he says, you know, no harm, no foul.

When I look at your methodology, if I understand this correctly, on Exhibit 25, you're using the same type of volumetric gas reservoir calculation, and you used one of those factors, the m factor?

A. Right.

Q. And by your methodology, then, you can create a type curve on Exhibit 27 that, based upon which of the m factor values, gives you a very convenient way of calculating for the 41 well, as you've done, that it has an m factor of almost 17,000.

A. Okay, it demonstrated during its life an m factor of 17,000. That's not to say that that was the m factor over the entire life.

Q. No, I understand that.

A. Okay, so -- Yeah. Later on, if you'll notice our -- whatever exhibit number it was that had the Farnsworth data in it, we had a more recent slope, and that very could have been a different slope, you know, and a lesser slope, because the other slope was derived at a period of time when there was a lot fewer wells competing for the gas.

But -- And what our focus is, is to show, if a well is drilled, is capable, if it has a modern, efficient completion, of recovering -- or draining 160 acres, which is the allocated drainage area, you know, for 160-acre spacing, and there's -- showing there's need for a well,

you know, more wells, than what the -- if you have wells that can drain what the spacing is.

That's where our -- was the thrust of our -- So you may have two different slopes --

Q. All right.

A. -- on these curves --

Q. Pick a slope --

A. -- at different times.

Q. Pick a slope that you think is appropriate, or combination of slopes, by which you'd use your methodology to tell me what you forecast to be the ultimate drainage area for the Rhodes Federal 41 well.

A. Well, if I were starting out from scratch, because this is how we sort of used to estimate reserves, as a -- we feel like was fairly accurate way of doing it, is to take -- analyze the -- just take -- draw a circle, start analyzing the wells around it and start finding how -- what is typical or what is -- I always look at from the standpoint, what is possible, from the various wells that surround a particular proration unit you're going to develop.

And then we make sure that when we drill a well that we get efficient completion and assume that we're probably going to be pretty close to the upper end of what's possible, if we do our job right. That's how we go

about it. It's --

And then knowing the slope, knowing what's a possible slope, then you estimate -- that's the reason we plot these -- what we -- We call them Huenigrams. That was after an engineer at El Paso, employed one time in a case against us. But they're pressure-cum plots, is what they really are.

And knowing what the initial pressure should anticipate, and then estimating briefly what the abandonment pressure is, you take that pressure differential, apply it against the possible/probable slope, and that gives you a good handle on what type of reserves you should anticipate.

Q. Well, and I had assumed that you had done that.

A. I haven't done it in detail around this particular well. What I did, though, is analyze this particular -- the 160-acre standpoint from, just to see what the Farnsworth had demonstrated back in its early life.

For example, if you go over to the Shepherd to the west --

Q. Let me finish --

A. Okay.

Q. -- my thought here. On the 41 well --

A. Okay.

Q. -- if I'm using this m factor slope analysis that you've advanced --

A. Uh-huh.

Q. -- and I'm going to look at the 41 well, what's your opinion about the drainage area for that well?

A. My opinion is that an efficiently completed -- on that particular well today may not be the same -- it may -- probably much -- is a lot lower slope, because the production has dropped away off. So that's going to turn the slope down, make it a lot steeper.

Q. So I cannot use the 17,000 MCF of gas --

A. Oh, no --

Q. -- for --

A. -- that's what I'm trying to say --

Q. -- the 41 well --

A. -- yeah.

Q. -- on this exhibit, look at this type curve and say it's draining 500 acres?

A. It's draining -- today draining that, but at one time it drained more than that. At one time in its life, it actually drained more than the 500 acres, I believe.

Q. I guess that's the question I'm trying to ask you, Mr. Hartman, is, the minimum number of acres being drained by the 41 well, in your opinion, is substantially more than what Mr. Lee has told us?

A. No, I -- not -- We have to qualify the time period, is what I'm trying to say. But it's definitely -- If it were a modernly completed well --

Q. Yes, sir.

A. -- it would -- yes, it could definitely drain more than 160.

Let me find that 27 again, I'm looking for 27. I just want to check those numbers.

Here it is, I've got it.

That was 16,000. I'll take it back, you're right, it was right at 500.

Q. Am I correctly stating your position, then, if we use this methodology --

A. You could -- This methodology shows you what that reservoir is capable of, and that's what you have to look at. And that's what dangerous about their Application.

For example, let's say they have a well that's got good casing, good cement job. Somehow it just didn't get properly completed, you know, somebody did a lousy job that day.

They go in, they drill another well. They get a modern completion. Then they say, My goodness, look at what we can accomplish here.

Q. Well, I guess that's the --

A. And then they come back and they said, Well,

we're going to apply the same methodology on completion that we did on the second well. Now they've got two real good ones, and they'd have a competitive advantage at that point in time.

Q. Right, and I think that with your expertise, I'm trying to get you to focus what I think is the pivotal issue, is that Mr. Lee has used his argument to advance the proposition that these wells are actually draining smaller areas. Therefore, I can put the 415 in here without being an unnecessary well.

And I want to contrast that with your position as to this spacing unit where you tell me that there's an opportunity for substantially more drainage area than what Mr. Lee contends for the curve.

A. It is possible, unless they come along and put an additional well on every tract around you. Then all of a sudden, you know, the drainage area is going to be smaller for another reason, and that is, due to the fact we have equally competing wells.

Q. What do you think of his argument of using a bubble map like this to help identify areas which would support an increased density?

A. It's just -- It's not an approach I use. I just -- I don't have a real strong opinion about it, but I don't quite use that approach.

Q. Is there a flaw in this approach that causes you not to use it?

A. I'm not going to -- I can't say, because I have not really analyzed that approach thoroughly. But, I do know that our analysis tells us that these wells are not necessary, that -- you know, that -- When I say "these wells", I'm talking about more than one efficiently completed well per 160.

Q. When I look at your display board that's before Examiner Stogner, it's on the big display board --

A. Uh-huh.

Q. -- I'm looking at a well density of wells that you operate, that are on a higher density than one well per 160.

A. Which ones are those?

Q. Within the north half of Section 15 --

A. Our --

Q. -- are any of --

A. -- excuse me --

Q. -- north half of 15, any --

A. No, no --

Q. -- of these --

A. -- this is our -- Our acreage is this 160 here, which it happens to be the north half of the south half. And the 160 right below it is in the shape of a square

consisting of the northwest southeast -- or excuse me, southwest southeast, southeast southwest, northwest south- -- northwest -- or northeast northwest, and northwest northeast --

Q. All right, let's look at the south half of 10.

A. South half of 10.

Q. South half of 10 has got three gas wells --

A. South half --

Q. -- in the red --

A. -- has three, that's correct.

Q. Yeah, and those are all operated by you?

A. No. This one is operated by Gruy.

Q. Okay.

A. And these are two different proration units.

Q. I understand.

A. Yeah.

Q. Apart from being separate proration units --

A. Right.

Q. -- those two wells you operate on your spacing units --

A. This well is in production, this well we have set 20-inch casing on. We're in the process of drilling this well.

Q. All right. So you don't have examples over in the area of the pool where you operate that have the

density examples that are involved in the cases before Examiner Stogner at this point?

A. Not yet, and that's what we want to prevent, as a matter of fact. We don't want it to look like a pincushion.

Q. Well, and that's why I'm asking you to explain to me on this display the differences between the Gruy pincushion and what appears to be a similar occurrence in the south half of 10.

A. Well, the south half 10 and the northwest of 15, these are original wells --

MR. GALLEGOS: Can you say what "these" --

THE WITNESS: Okay, "these" meaning -- Okay, that's a good point. Unit M of Section 10, Unit B, E and F of Section 15, those are wells that were grandfathered in with the order that approved the pool.

MR. KELLAHIN: All right, sir. Thank you.

EXAMINER STOGNER: I need to clear up some things here. What kind of grams did you use? What was the engineer's name with El Paso?

MR. GALLEGOS: Huenigrams

THE WITNESS: Huenigrams. Okay Hueni, Greg Hueni. He's a consulting engineer out of Denver.

EXAMINER STOGNER: Okay.

THE WITNESS: And they've used him in various

cases, as a consulting engineer.

EXAMINER STOGNER: Okay, I'll --

THE WITNESS: And we added the word --

EXAMINER STOGNER: -- circle that.

THE WITNESS: -- we added the word "gram" after it, okay? Like a telegram.

EXAMINER STOGNER: Good.

Mr. Carr?

CROSS-EXAMINATION

BY MR. CARR:

Q. Mr. Hartman, is a Huenigram an industry term, or an in-house --

A. No, that -- That's our in-house term, and we try to use the word pressure -- composite pressure time plots or pressure time plots.

Q. Mr. Hartman, you realize here today that Gruy is not seeking here today a change in the pool rules, you understand that?

A. We understand they're seeking two specific Applications, that's correct.

Q. The data you have presented here today, in fact, would suggest that a change in the pool rules probably would not be appropriate across the Rhodes Gas Pool; isn't that a fair --

A. That is our --

Q. -- summary?

A. That is our position. We feel like that the current rules protect correlative rights and are capable of preventing waste.

Q. My question is that in the time period prior to these modern completion techniques and the efficient wells, in your judgment was 160-acre spacing inappropriate in this reservoir?

A. Well, you had a period of time, and I -- Well, 40, approximately a 40-year -- 38-year period of time, when it really was not a gas pool per se; it was a storage project.

Q. Do you believe that the pool rules back in that time -- Do you believe 160-acre spacing really wasn't -- authorized a larger spacing pattern than was appropriate for the reservoir?

A. Well, at the time -- At the time it was in the Rhodes -- the time of the Rhodes, was in our storage project. It was actually part of the Jalmat but not subject to prorationing. It was being operated as a storage project within the Jalmat Pool. And the spacing in the Jalmat Pool, recognized or approved spacing, is 640-acre spacing.

And I think -- I can understand how the Commission, in Order R-520, got to that large of a number.

They -- At the time R-520 was first approved, they had wells that were demonstrating a capability of draining 640 acres.

Q. In fact, the 640-acre spacing, though, that is prorated pool of the Jalmat?

A. That's correct.

Q. And you get a full allowable factor for every 160 --

A. That's right --

Q. -- acres?

A. -- you get four acreage factors, full acreage factors.

Q. On 640?

A. That's correct.

Q. And so I -- My question, really, is, was it improper to try and at any time develop this pool on 160 spacing prior to the development of these modern --

A. No, I don't necessarily think so.

Q. As you noted, we've got two separate Applications that are actually before the Division; isn't that --

A. Right.

Q. The yellow spacing unit up in Section 4 on your Exhibit 39 and the yellow-shaded 160-acre units in 16; is that correct?

A. That is correct.

Q. And you're opposing these Applications?

A. I am opposing denser spacing for the Rhodes pool.

Q. And you -- Ergo, is it fair to say you are opposing the Applications of Gruy in these two cases?

A. We're opposed because we do not want the precedent set that -- And the reason we're concerned is the number of locations. We don't feel like this is an isolated case. It's their -- apparently going to be their ultimate plan to drill as many wells as they feel like they can find locations for.

Q. And you understand that they've said that that won't occur until they have OCD approval?

A. Well, that's the reason we're opposing now, then. We feel like the evidence needs to be put on the table that a modern well today can drain 160 acres.

Q. I believe you testified that more than one well in your -- in the spacing unit, in your opinion, could violate correlative rights?

A. In this pool.

Q. Now, you're not here suggesting today that either of the Gruy Applications are going to violate the correlative rights of Doyle Hartman?

A. Not these particular two, immediately.

Q. You don't own anything in either of the spacing units --

A. No.

Q. -- that are at issue, and, in fact, you don't own oil or gas rights in any of the 160 units surrounding those spacing units --

A. No.

Q. -- do you?

Your concern is the precedent?

A. The precedent and the going forward with what's already been proposed.

Q. You also testified that, in your opinion, two wells on these units could, in fact, result in waste?

A. That is correct.

Q. And you presented -- I believe it was Exhibit 35, in which you showed that, in fact, two wells on a unit would really create a situation where you had two wells competing for what the reservoir could give up?

A. If they're equally -- If they're equally completed wells, that is correct.

Q. And when you talk about waste, you're not talking about recovering less; you're talking about economic waste, drilling more wells to recover the same amount; is that right?

A. Economic waste, that is absolutely right. But actually, in the scheme of things, that amounts to also waste, because dollars that are put into a wasteful project

don't go to a project that, you know, could actually add reserves.

Q. But when you add two wells --

A. And we would be -- it would be violating our correlative rights if we have to come in just to compete for our fair share of the reserves and drill more wells.

Q. And that would happen if there were --

A. And if we fail to do that, then our correlative rights would be violated.

Q. Because you'd have to -- You wouldn't be denied an opportunity to produce your reserves, you'd just have to pay more to do it; isn't that right?

A. But wells would be being drilled that were unnecessary to start with.

Q. And that would occur after a hearing when you had notice and an opportunity to inject?

A. I'm not sure -- I don't know I'd totally have notice, but -- But we have pool rules, and I think it's time for this issue to be heard right now.

Q. We had that example in Exhibit 35 where you put two wells on the unit and considered that wasteful. Do you recover less from that spacing unit --

A. What was that -- Oh, you said 35. Go ahead.

Q. Yes, sir. Would you recover less with the two wells, or just increase your cost?

A. Let me see 35. Which one was 35, to be precise? Oh, okay. Go ahead, ask the question again.

Q. The question I have is --

A. I've got it right here.

Q. -- are you going to actually recover less reserves from this spacing unit, or do you just create a competitive situation where you have to have more wells to recover?

A. If you have -- Let's say we have two proration units, and we have one that is completed with one well efficiently, and then you have the other completed with two wells efficiently, and both -- all of them -- both groups of wells is capable of draining 160, then probably what's going to happen is, the guy with two wellbores is probably going to get two-thirds of the reserves, and the guy with one wellbore is going to get one-third of the reserves, although the guy with one wellbore has half the acreage.

Q. And my question, really, is this: On a single spacing unit, when you drill more wells you're not recovering less hydrocarbon, you're just running your cost up? Is that -- That's what I'm trying to get at.

A. Our position is that if we get into a round of drilling in the Rhodes Pool, that -- doubling the number of wells, then we are running the cost up without substantially --

Q. Okay.

A. -- increasing the reserves.

Q. I'm just trying to understand you between physical waste of hydrocarbons and economic waste. You're not going to recover less, you're just going to -- it's going to cost a lot more to gather it; isn't that what you've been saying?

A. We're saying, yeah, you're not --

Q. Okay --

A. -- with one well, you're not necessarily going to -- you could -- You will recover less on his 160 if he's only got one well, but he has the potential of recovering more if the offset operator doesn't drill two wells.

Q. In each of --

A. We should both have an equal chance to get the reserves.

Q. In each of the Gruy cases, there are unorthodox well locations being sought, and there were questions on cross this morning about, are you taking a position on those unorthodox locations as to the unorthodox nature of them?

A. Obviously, if these are not totally bothering us here, then, you know, moving it a few feet doesn't affect us either. But it is also a factor -- For example, the 103, it's at -- still at an unorthodox location that

directly offsets us. That's one well that they've given us notice that they're going to drill.

Q. And they haven't filed an application, to your knowledge?

A. Well, not for a hearing. They definitely have filed for drilling.

Q. When we look at Rule 104, the spacing rule, you would agree with me that at least a basic assumption for spacing reservoirs is the area that a well drilled in that reservoir ought to be able to drain?

A. Say that again. I'm sorry.

Q. That spacing is based on drainage, at least in theory?

A. The Commission rules define the spacing as being the area that one well can efficiently and economically drain.

Q. And when we look at Rule 104, there are several component parts to those spacing requirements: The size of the unit, 160 acres; that's one of the component parts?

A. Okay, what else, then?

Q. And -- But that's one, correct? We'll go through the entire --

A. Okay.

Q. Another one, you'd agree with me, would be the setbacks from the outer boundaries; isn't that fair to say?

A. The rules, right, provide for a specified setback, depending on the amount of acreage.

Q. And they provide for a certain distance between wells, 1320?

A. That is right, in unprorated pools.

Q. And they also contain provisions that provide that a 160-acre spacing should be substantially in the form of a square; isn't that right?

A. That is right.

Q. And that it also should be a quarter section of a governmental -- U.S. government subdivision?

A. That's right. That's the reason we, on our -- we have a -- 160 in the form of a square. But we're following a nonstandard proration unit application, we're -- we don't sit within the governmental quarter section.

Q. In fact, both of the spacing units you operate in this pool are nonstandard units?

A. Yeah, and Gruy -- Gruy's predecessor determined the shape of those.

Q. But the fact is, when we have rules that set a spacing pattern, when other reservoir or ownership factors come to bear, you can get an exception to that rule; isn't that right?

A. There -- yeah, there are appropriate --

Q. That's what you've had to do here, or your

predecessor had to do here, to get these units; isn't that right?

A. These -- Well, for example, if you want to talk about these -- our Bates lease, El Paso Natural selected the shapes of the proration units surrounding the Bates 4. Consequently, that determined the shape and the size and the positioning of the Bates 4 proration unit.

And that's an appropriate application, especially being that people would -- the only people that would be opposing are the guys who created, you know, the shape to start with.

Q. But there are factors that justify exceptions to the rules; do you agree with me on that?

A. That's right, but I don't -- what we're here -- Our opposition today is that we don't think it's justified throughout the Rhodes Pool, intense infill drilling.

Q. And that's not being sought here today; you understand that?

A. Well, I think -- I think it's the beginning of it.

Q. You stated several times, I think, that an efficiently completed well today should drain 160 acres.

A. I think it can in these particular reservoirs.

Q. Recently you have drilled your Bates 3 well in Unit K of Section 10 in the --

A. That's right.

Q. -- spacing unit?

I assume that's efficiently completed.

A. Not totally yet. We could improve on it. But it's making an adequate amount.

Q. It is on a 40-acre offset from the Bates Number 1?

A. That's right.

Q. Did you -- What have you done with the Bates Number 1?

A. The Bates 1, the history behind it, it was -- I think Meridian inherited or had become the operator for El Paso by that time, but around 1987 -- the well was actually making -- in 1987 it was making about -- capable of making about 400 MCF a day.

But I believe they had a casing leak, and they elected not to fix the casing leak but to plug the well. And that was what was holding the lease.

Q. How much was actually produced from the Bates 1? Do you know the cumulative-production figure?

A. The cumulative-production figure that's reported is 14 billion, but I question whether that's all native gas. And the reason I question that is, we can go back and look at, say the Rhodes A1. If you look at the P/Z curve for the Rhodes A1, it should have had an ultimate of around

16 billion, but it's got a cum of 26 billion.

But we had a -- you know, a 40-year period in there that we had a project. So we had some cycled gas that's kind of in those numbers.

I believe it's the same thing that's happened on the Bates 1, the Cagle, a lot of those wells.

Q. When we look at this area within which you're operating, your Bates Number 3 offsets the Bates Number 1. It produced some volume. It's reported at 14.3, maybe and maybe not. The Bates 1 did not effectively drain that 40 acres immediately offsetting, isn't that fair to say?

A. No, it didn't. And also, I need to tell you something about that Bates 1. I mean, Bates 3 -- The Bates 1 you're talking about and the -- versus the 3?

Q. Yes.

A. Well, first thing is, we have some additional pay that's not open in the rest of those wells.

Q. In the Bates 3?

A. Right.

Q. And so you're -- are you -- do you know how much of the reserves are coming from the new pay as opposed to the old pay?

A. Essentially all of them right now, because we have not even come up the hole because of the pressure differential.

Q. Do you intend to open the Bates 3 in the same zone that was open in the Bates 1?

A. We definitely intend to open the Bates 4 in that. That's one of the reasons.

Q. And the Bates 4 is the well due south of --

A. Yes. And then probably, you know, eventually move back, if -- depending on how the Bates 3 holds up. If it falls off very fast, then we will recomplete it to the main pay, which is the Yates.

Q. A number of these wells were grandfathered in --

A. Number of wells --

Q. -- in the prorated -- in the storage --

A. Yes --

Q. -- part of the unit?

A. -- you're right.

Q. But if I look at the area within which you operate, we have a gas well in the pool currently being produced by Gruy due north on the 40 acres, due north of the --

A. Uh-huh.

Q. -- Bates 1. You have just drilled to the 40 acres due east of the Bates 1, correct?

A. Right.

Q. There is a producing gas well operated by Gruy due south --

A. Let me see.

Q. -- of the Bates 1?

A. Yeah, it probably is producing. I think maybe it's the one just south that is not.

Q. And Mr. Kellahin pointed out three wells due south of that on 40-acre tracts, south of the Bates 1.

A. Wells that were existing prior to the pool being produced.

Q. And all of those produced from the gas reservoir?

A. Yes, that's right.

Q. And when we -- And so in effect, although it's developed on 160-acre spacing rules, you do have wells that have been drilled to this reservoir on effectively a 40-acre spacing pattern; isn't that right?

A. It was a storage project that was being operated on 40-acre spacing, not necessarily producing wells. It was being operated as a storage project. I can't tell you, you know, what all their thinking was, but I'm sure they -- part of the idea was, they wanted to put gas in part of the year and withdraw it other parts of the year. And that was the -- you know, the spacing pattern they chose.

But that's also what was inherited when it went to a gas pool.

Q. When you complete the Bates 3, finish completing it --

A. Uh-huh.

Q. -- you anticipate it will drain 160 acres, or whatever acreage is available to it; isn't that right?

A. We -- It's our plans to make it where it will get its share, which is 160.

Q. And then due south on the yellow spacing unit, on Exhibit 39, here now, is this the Bates oil well that you're now drilling?

A. That's right.

Q. And that is in Unit N of 10, Section 10?

A. That's in N of 10, that's correct.

Q. Originally, you proposed to drill that well in B of 15; isn't that correct?

A. That is right.

Q. And you have moved it to the 40-acre spacing unit offsetting your Bates Number 3?

A. Right.

Q. Doesn't that, in fact, create a situation where you're competing -- creating competition between the wells that wouldn't exist at the --

A. There's probably --

Q. -- original location?

A. -- a little bit more competition there. But again, we know that a well can drain a large area. So maybe exactly where you have it on that 160 is not that

important, because you're going to be able to drain the 160 anyway.

What determines the amended location was, we also have geology for the lower Seven Rivers and Queen that we were interested in, and we feel like that was a more advantageous location as far as structure was related.

And also following -- because there's a nose in there anyway, probably -- pick a probably better sand development, even the Yates, he could have been close to the sand development, you know, high-quality sands going across the nose, versus falling off the nose a little bit.

It's our interpretation that there's a structural nose that sticks out to the west, and that's -- as well as permeability pinchouts in a north-south direction, approximately along the section line between Sections 10 and 11, 14 and 15, and we found some gas and some oil in the zones down here, and that's why we wanted to make sure that we were drilling it off of a structural position.

Q. Exhibit 35 was a 160-acre tract with one well on it. And then you put a second well on, which effectively resulted in 80 acres.

A. What was that again, now? Say that --

Q. Exhibit Number 35 showed a 160-acre tract with one well on it --

A. Okay.

Q. -- and then when you place the second well in that 160, you said you were essentially reducing it to an effective 80-acre spacing pattern; isn't that right?

A. If you have -- Right, if you have wells that can drain 160, you go in and drain -- drill an additional well -- and assuming -- and assuming that the other wells around you are also competitive, then what you're doing is, you're reducing the spacing, essentially, cutting it in half.

Q. And when you take your Bates Number 4 and put it on essentially an 80-acre unit below your Bates Number 3, haven't you done just that, created competition and thereby the waste you were talking about --

A. I don't think that -- No, as long as we drain 160, I could really care where the gas tank comes from. You know, we're not -- we're not trying to tell you that the gas that this well will produce will only come from there.

I don't think anybody in this room is qualified to say where it comes from. That's part of what correlative rights is about, you know. And you protect correlative rights by -- just as long as there's counter-drainage, to offset drainage on the tract.

And what we want to make sure is that we get our fair opportunity without wasting money.

Q. Okay. And neither of the Gruy Applications will deny you the opportunity to do what you need to do with your acreage?

A. You could argue today that those particular Gruy applications would not immediately deny me an opportunity. However, Gruy might be tempted to come back and say, Now the precedent is set, now, you know, we should be able to do this or that. And we do agree -- disagree that intense infill drilling is necessary. We don't think it is. We just think they need to take care of their business on the current wells they have or their current leases within the rules.

MR. CARR: Thank you, Mr. Hartman.

MR. GALLEGOS: No redirect.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Hartman, you have mentioned several times about the modern era or the modern times in this particular pool, and they started when? About what year?

A. I would say, you know, especially -- Probably, I'd say mid-Seventies, at least, probably -- maybe earlier than that.

But what I'm referring to -- one of the things that -- the reason I use that cutoff when you ask that question, the OCD issued an order or rule -- you had a rule

that requires, you know, certain cementing practices in southeast New Mexico. It was because of water flows, but it turned out to have some very beneficial effects.

You have some pretty decently drilled wells, wellbores, from that point on, because a lot of cement was used to cement the wells, so that -- cement job, so therefore, you know, you don't have to worry about channeling, things like that.

So I think -- I definitely would put 1975 forward, or 1976, when I think those rulings came out. You have the opportunity to get a good cement job as well as, you know, frac jobs. They continue to progress with time. And those are two big, important factors. It's just making sure you're well communicated to your pay zone in your wellbore.

And I want to say, you know, the -- what we call, I guess, the old wells, in those day -- in their day, they were efficient wells. There was not a problem the way they were -- those were the -- That was what was available in 1935.

But I would find it very difficult, you know, I -- you might -- it might be difficult to make a good well out of a well that was an open-hole completion, you know, in the Thirties, today.

Q. I keep trying to figure out how we got to where

we're at today, and I believe your Exhibit Number 1, which was our Order Number R-6891, that we took administrative notice of, that's essentially what created the Rhodes-Yates Pool; is that correct?

A. What is known as the Rhodes-Yates Pool today. Prior to that, you -- Rhodes-Yates Gas Pool and the Rhodes-Yates Oil Pool, you have both. Prior to that you had the Rhodes Pool, you also had some other surrounding pools that were -- you know, like the Scarborough and Jalmat to the north. You had several overlapping pools coming together in that vicinity.

But essentially the Jalmat Pool boundaries extended all the way down to the state line, with the Rhodes Pool, oil pool, covering the same area, but not necessarily the -- you know, the same pay.

Q. I thought I heard you say earlier that the Jalmat and the Rhodes were essentially the same --

A. From a reservoir standpoint, producing zones,they are. But you -- You know, as you drop further south, you drop into the oil column. And so the Rhodes -- what was -- The Rhodes Oil Pool was originally a gas pool, being an oil pool on the south end, and with, you know, gas -- above the gas-oil contact.

El Paso produced the gas portion as a gas pool, and then as a storage project Texaco has produced mainly --

has been the predominant producer of the oil to the south.

Q. Okay, what was going on with the gas up in the gas portion? How come the Jalmat wasn't extended or kept down --

A. It was the Jalmat. This was part -- In 1982, when the -- El Paso came in, the Rhodes officially was part of the Jalmat but being operated as a storage unit and being exempted from prorationing in the Jalmat.

Q. Okay. So therefore it was created as the Rhodes-Yates, which was not prorated?

A. Right, that -- El Paso -- their application was to do it that way. I can only presume that -- Well, the transcript indicates that they wanted to be able to get their gas out in a timely manner.

Q. Okay, that's what I was kind of getting at. What was going on at the time in this area? We evidently got a correlative-rights situation now. Did that same correlative-rights situation occur then?

A. Well, what -- one of the -- I've given thought to that. And you remember it was a storage project, and the testimony in the hearing in 1982 was, they were back to zero net injection as of January of 1982.

By this point in time, the Jalmat pressures further north outside of the Rhodes area were already below what the pressures were in the Rhodes at the time the

Rhodes gas pool was created.

So El Paso made application, I presume, to -- maybe to be able to catch up or -- but to get -- definitely, the transcript says to get their gas out, you know, in a timely manner. So that's the reason they made the application as a nonprorated versus a prorated pool.

Q. But didn't El Paso own all that acreage within that pool?

A. Yes, essentially they did.

Q. Okay, so that was essentially -- took care of the correlative-rights problem, because they owned everything?

A. Yeah, and we have no problem with it today. It works. It's worked -- it can work as -- it works as a nonprorated pool and has been produced in that manner since 1982.

It can -- when I say "works", I mean the rules are capable of working

Q. Okay, we have situations out there where nonstandard proration units would have to be formed. Section 8, for instance -- well, it's off of that map -- where the pool boundaries -- I believe you have it depicted on here, Exhibit Number 37, where you have the oil pool kind of coming up and making an L shape. It would be necessary to form one 120-acre nonstandard proration unit and one 40-acre nonstandard proration unit. Right there,

that cries out correlative rights. And also, there's not an easy solution --

A. Okay.

Q. -- with today's rules and regulations as they are.

MR. CONDON: It's in your packet.

THE WITNESS: No, it's not in here. Excuse me.

EXAMINER STOGNER: I'm sorry.

THE WITNESS: Oh, okay, you're on the same one, I thought we were on the proration map. Go ahead.

Q. (By Examiner Stogner) Okay. I was just -- I'm -- Okay, I'm referring to the outline of the Rhodes-Yates Gas Pool.

A. Right.

Q. Okay. In Section 8, under the present rules and regulations, for the south half to be produced, one is going to have to formulate a 120- and a 40-acre nonstandard proration unit for the south half of Section 8 to be completed within this -- within a gas pool.

A. It looks like -- In Section 8 there, that is a 160. It's undedicated; is that correct or not? Over in the southwestern part.

Q. That would require a hearing --

A. Yeah, right?

Q. -- because you're not in the form of a square --

A. Right.

Q. -- and under our rules and regulations, they could come under and get 120-acre spacing administratively, without coming in the hearing, because there's three 40-acre tracts within that quarter section that could be formed into a nonstandard proration unit.

But yeah, I see what you're saying. But that would -- That would necessitate a hearing for that 160-acre --

A. Yeah, for a nonstandard. And that's reasonable, because that's what's left.

Q. Right.

A. You know, it's -- They have the adequate amount of acreage, and the shape and the positioning is dictated by what's already happened around it. We're not opposed to things like that at all.

Q. It's just not easy obtaining that under the present rules.

In the Jalmat, one's able to do that fairly easily. It is prorated, but yet there's different rules and regulations that apply in there, that would allow an administrative order to be written.

Then I guess what I'm coming up to and leading up to, in Section 4, I thought I heard you say that you had no problem with the Number 41 well still producing in

concurrence with one of the other new wells, but not the two new wells producing at the same time.

A. Right. And the reason I'm able to say that, probably, is that 41 is an open-hole completion with a low probability of ever being made more -- you know, turned into much more than it already is.

But when you come in and you get two basically brand-new modern completions, you know, within a period of a few months, obviously, if we were being offset there and the other operators were on -- a person had one well on the 160, the guy with two is going to have a competitive advantage in that situation. And --

Q. Two new completions?

A. Yeah, with two new completions, that's right. Two new modern completions. And they -- both of theirs have been frac'd and used modern techniques.

It's just not that easy to accomplish that with an open hole, plus the fact, you know, you have no rathole to deal -- you know, work in. You have fill that can fall in and cover part of your pay in an old well and so forth.

So there's some real constraints that an operator has with some of these old open-hole completions.

Q. Let's take a look at the situation in which they're asking for in the southwest quarter of Section 4, and let's just say, for instance, that these three wells

are allowed to produce. And this being federal acreage, what would the BLM demand to the offsets, for offset drainage demands? Would that be taken into account? Essentially going to effective 40-acre spacing.

A. It could possibly lead to that. You know, problems of meeting the offsets. And that's another excellent reason, if a person is sitting there holding federal acreage, to have to, you know, meet what's happening in the offset, especially if it's not necessary to do that.

Our position is, we happen to be on fee, but I'm sure that our royalty owners would, you know, demand the same thing of us too.

Q. Possibly the obligation to, at least?

A. Yeah, it increases the potential obligation to drill.

EXAMINER STOGNER: I think we're into a situation where we're playing with a lot of "what ifs" at this point, but I have no other questions.

Are there any other questions of Mr. Hartman at this time?

MR. GALLEGOS: No, Mr. Examiner.

MR. CARR: (Shakes head)

EXAMINER STOGNER: You may be excused.

Is there any need to call any other witnesses?

MR. CARR: No, Mr. Stogner, there is not.

I have a very brief closing.

EXAMINER STOGNER: Okay. Mr. Kellahin, I'll let you go first with the closing.

Oh, before we get started on this, I had on my desk on Monday the 31st, and I didn't get back till Wednesday -- this was a letter to me from the State Land Office, and I notice it was not cc'd to you, Mr. Carr, discussing communitization agreements. And in fact, the Commissioner wanted to go on the record formally objecting to this particular matter pending the communitization of the acreage in Section 16. At least I'm assuming that this is referring to Case -- Yeah, it actually is, 12,017. And I can provide you a copy of that letter at this time.

MR. CARR: We would appreciate that.

EXAMINER STOGNER: Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Stogner.

Mr. Stogner, Gruy created this problem for themselves. They've admitted to you in testimony today that they were assuming the risk of what they were doing, and yet they now come before you and they want you to bail them out of the problem that they made for themselves.

They suggest to us that this is not to be a pool-rule change, and by doing so we're all supposed to relax. Just grant me my little exception in the southwest of 4 and

my little exception in the northwest of 16, and this nonproblem simply disappears.

But you and I have been doing this long enough to know that once you grant an exception, then the exception becomes the rule. And we have a competitive domino effect in this pool.

And you and I now know that for the last ten years we've been telling operators something that's not going to happen anymore.

Since 1988 I have been telling operators, as you have been telling operators, that in nonprorated gas pools you can have a single gas well per spacing unit.

We went so far as to put it in the rule book back in 1996 so people like Gruy, if they don't know about the memos and can find one of the yellow books and can read 104.D, can find that paragraph to alert them to the fact that you have a single gas well in a nonprorated gas pool. And it is to preclude exactly what they're doing, to cause competition in the drilling of potentially unnecessary wells.

We have two solutions in the rule book. If you want to increase the density in a nonprorated gas pool, then you can petition to have it prorated, and that creates a wonderful opportunity and a vehicle to increase the density of your wells. Correlative rights are protected,

you have a gas allowable for the GPU, and they can drill their wells. And us as offset operators will be comforted by the fact that we know, regardless of the well depths, that we will have the right and opportunity to produce an equal amount of gas.

The other option that we have told operators, both you and I, for the last decade, is that in a nonprorated gas pool if you want more than a single well then you abide by the 1988 and the 1990 memos. And if you read them, it talks in very strong language about coming forth with compelling evidence that the new well is necessary in order to protect yourself from offset drainage.

And what does Gruy do? Do they afford themselves the opportunity to advance that argument for you today? Certainly not. They bypass that entire set of memorandum and procedures and cases we've done following those procedures, and they simply say, Grant us an exception. We're not going to worry about presenting you that special case that shows they need an exception.

So if you grant this case today, then it will be a floodgate of cases where anytime I can get an operator to give me a volumetric calculation and a bubble map, we're going to be in here asking what Gruy is asking you to do.

And where is their compelling evidence that tells

you that it is absolutely essential that they produce these wells concurrently? Not a word was spoken on that topic. Nothing was presented. There is no evidence before you to show that there's any compelling reason why you should grant them forgiveness for the mistake that they've created. There's nothing to show that they can't produce these consecutively and abide by the pool rules. The fact that they have chosen not to avail themselves of the opportunity to read and understand the rules is no excuse for you to grant them the exemption.

We would ask that you deny their request.

EXAMINER STOGNER: Mr. Kellahin.

Mr. Gallegos?

MR. GALLEGOS: Mr. Examiner, I want to cover three areas:

One, the interest -- and most appropriate interest -- of Doyle Hartman in this matter.

Number two, the law and the rules that apply and should enforced.

And number three, what we might call a brief look at the evidence on the technical issue of appropriate spacing for drainage in this pool.

First of all, the implication has been made in cross-examination that some way or other the Hartman interest is not really vitally affected, and it may be that

he's an interloper, when in fact Hartman is serving the orderly development of this pool.

And one only has to look at Exhibit 15, Exhibit 18 and Exhibit 20 to know clearly that at the same time in April of this year that Gruy was setting out to rework the 43, drill an oil well that turned out to be gas well, the 415, and to do the 5, it had already made application to drill what it called the 103 and the 159 wells, right next, offsetting Hartman's base lease, where there was already a producing well.

And Exhibit 15 is the drilling agreement which we learned -- This is this multi-well package, 13 wells, six of them already permitted, not yet drilled. And the only reason that those wells weren't drilled -- There's no other conclusion to be made. The only reason those wells weren't drilled offsetting and starting to drain the Hartman acreage was because he saw what was happening, he wrote letters, he called to their attention their trampling of the rules, and they stopped drilling those wells, and they came in here with applications. They probably would not have even filed these Applications; they'd still be out there drilling every place that they found a -- 40 acres without a gas well on it.

So the Hartman interest is clearly proper, it's to be protected, and at the same time it serves the purpose

of enforcement of the rules.

Which brings me to the second point I want to cover.

Section 70-2-17.B speaks of the Division's creation of proration units: Any area that can be efficiently and economically drained and developed by one well -- even the statute speaks of efficient and economic draining developing by one -- and in so doing, the Division shall consider the economic loss caused by the drilling of unnecessary wells. The economic loss. And then the protection of correlative rights and the prevention of waste.

That's exactly the design of the rules, and that's exactly the consideration.

Now, taking a look at the rules, I have to say, as I focus on them briefly, Gruy cannot come before this Division on the same footing as a party who had a certain plan or aspiration in terms of development, followed the rules, first made an application and then waited to determine whether or not permission was going to be granted. This is a party who has grossly violated a number of rules that apply to it, and then comes in and says, Now, do something for us.

Just to review, Rule 104.C.(2) applies here. It says that the spacing here is 160 contiguous acres, 660

feet outer, 330 feet inner, and 1300 [*sic*] feet to the nearest well.

104.D.(2) says, when it talks about nonstandard spacing units, which in effect we have here because we're talking about trying to put more than one well on a 160, Any well which does not have the required amount of acreage dedicated to it for the pool or formation in which it is completed may not be produced until a standard spacing unit for the well has been formed and dedicated or until a nonstandard spacing unit has been approved.

And Rule 104.D.(3) says, Unless otherwise permitted by the special pool rules or authorized after notice and hearing, only one well per spacing unit is permitted in nonprorated rules [*sic*].

The implication or the suggestion of the witness for Gruy was, Well, we didn't know about the LeMay memos, something that's not widely known, until Mr. Hartman called it to our attention.

The LeMay memos are no different than the precursors of what's in the rule. If they just read the rule book, 104.D.(3) told them they could do what they were doing.

Now, I've always admired the eloquence of Mr. Carr, and I won't take the time, but in the case of the Application of Presidio Exploration, Inc., for an

unorthodox gas well location and simultaneous dedication, Eddy County, New Mexico, Case Number 10,416, Mr. Carr, representing Yates, made the argument that I am making, better than I could possibly make it, that what is really happening, what Presidio was trying to do there was really an effort to change the pool rules.

As he said, and I quote, At least to start down that road.

And then he goes on to say, The legal framework within which that decision must be made includes the Division's memorandum dated August 3, 1990 -- and he quotes that memorandum that requires that there be only one well on a proration unit, and he quotes it to say application to produce both wells will be approved upon compelling evidence that the applicant's correlative rights will be impaired unless both wells are produced.

In this case, there's nothing in the record that says Presidio's correlative rights will be impaired. That's what the requirement is, to quote Mr. Carr. And I can change that phrase by saying in this case there's nothing in the record to say Gruy's correlative rights will be impaired by them being restricted to following the rules and having one well.

The technical evidence simply shows, first of all, that there was an effort here, which I would call

after the fact, by Mr. Lee to describe this reservoir as one that is tight, of low permeability, to select an arbitrary porosity cutoff and manufacture some justification for what Gruy already intended, which is basically to just go in and drill on any 40-acre spacing it can find.

The compelling evidence shows that one well clearly can drain 160 acres.

And if anything blows the cover of Gruy, I think it is the evidence concerning the southwest quarter of Section 4, where even Mr. Lee's bubble map indicates that the two wells, particularly with the 43 reworked, clearly will drain that acreage, and that it was not even intended that the 415 be a gas well; instead, it was targeted as an oil well.

And out of haste and evident intention to save money the 415 becomes a gas well. And lo and behold, again, with the trampling of all the rules, disregard of procedure, Gruy wants this Division to approve them and allow after the fact for their wrongdoing to become blessed and approved.

And all I say to that, Mr. Examiner, if operators don't follow the rules, we eventually have chaos, and we undermine the whole scheme of orderly development and orderly regulation and fair treatment of everybody who has

interest in a pool, and that's even more so the case when somebody can come in after they've violated the rule and then ask the Division to excuse them.

Thank you.

EXAMINER STOGNER: Mr. Carr?

MR. CARR: May it please the Examiner, Gruy Petroleum Management Company comes before you today admitting that we're outside the rules. And contrary to the way Mr. Kellahin or Mr. Gallegos would like to posture the case after the fact, what we're here to do is to resolve this problem, get back within the rules and abide by an order of the Division or the Commission. That's why we're here.

And this is a case that involves correlative rights. It involves the correlative rights of Gruy. It doesn't -- You can threaten the correlative rights of Mr. Hartman. Mr. Hartman owns nothing in the subject spacing units, he owns nothing in any 160-acre unit offsetting either of the spacing units that are at issue. And he doesn't suggest that what's going to happen in the two tracts that are the subject of these cases, he doesn't even suggest they're going to impair his correlative rights; he's concerned about the precedent, about pool rules, which everyone knows are not on the table here today.

This isn't about the correlative rights of Mr.

Armstrong. Armstrong Energy filed a prehearing statement. They were concerned about pool rules. We're not seeking pool rules. They were concerned about a well being drilled in Section 8, and we had our land witness say, point out, that there was a location picked by Mr. Lee in Section 8, and the well was already drilled, but not by us, but by Mr. Armstrong.

What we're talking about here today is the opportunity afforded by statute to Gruy to produce without waste its fair share of the reserves under its acreage. And Mr. Lee came before you, and he showed how he had evaluated the tracts in this unit, how he had identified locations using geological and engineering principles where the reserves had not been drained and were not being drained.

This was not the approach that Mr. Hartman would use, but he wouldn't even say it was wrong when asked by Mr. Kellahin about that. It was the approach that Gruy, as the operator of these properties, elected to employ to decide where to invest their money, to take advantage of their statutory opportunity to produce the reserves under this tract, under these two tracts.

And so they're here seeking authorization from the Division to simultaneously dedicate wells so that they can produce the recoverable reserves under their acreage.

Mr. Kellahin said that there wasn't thing said about their correlative rights. Well, he'll need to read the transcript, because Mr. Lee testified that if the Application is denied, they will recover less, their reserves will be left in the ground under their tract, and they will be denied the opportunity to produce what is theirs. That's what the record shows.

I will say that I was pleased to be quoted by Mr. Gallegos. That is a first. I was glad to see he finally found reliable authority. But I would point out that in the Presidio case there wasn't the testimony that was in the record here today where Mr. Lee pointed out that unless he can simultaneously dedicate wells on this tract, he won't recover what he could recover if they were produced in sequence or on an alternating basis.

Mr. Hartman says the current rules will suffice. And I'm going to say these next two things without saying that I think what I'm mentioning is wrong, but Mr. Hartman doesn't have a standard spacing unit in the pool, and he is developing in an area where the pool has been effectively developed, and historically, on 40-acre spacing, but also is really being developed today with current techniques on offsetting 40-acre tracts.

And I want to tell you that I don't think that's wrong. I think what you have there, as you have with Gruy

trying to develop on offsetting 40s, is an operator who brings his science to the reservoir, who knows what the rules are, in Hartman's case, and if necessary in the past or now, because of historical or reservoir characteristics or ownership problems, has to get an exception to those rules.

That's what we're doing here today. We're asking for an exception to rules for two spacing units. Mr. Hartman employs his technique to develop his acreage; we're asking for permission to employ our technology to develop ours.

And to then run behind and say, Well, this is really a pool-rule case, I submit to you that isn't the situation here at all, and I think it's extremely unlikely that we could come back and say, Oh, yes, you approved simultaneous dedication on two spacing units, and you've started the domino effect, and sorry, Mr. Hartman, we have to drill all around you now, because you'll remember today, just as we'll remember today, and Mr. Gallegos will quote me again.

But the fact of the matter is, that's not what we're talking about; that's raising an issue so they can knock it down. We're not proposing pool rules, we're attempting to bring our prorations within rules or get exceptions to rules where the reservoir doesn't match the

general rule.

The evidence here today shows that if you deny these Applications, we will be denied the opportunity to produce our fair share of the reserves under our tract. No other operator's correlative rights are going to be impaired.

And I submit to you that when we come in here and show you that if you deny these Applications we will not be allowed to produce what is under our acreage, our correlative rights are impaired, the evidence is compelling, and to deny the Application would be to cause correlative-right impairment.

And therefore we ask you to grant the Application of Gruy in each of these cases.

EXAMINER STOGNER: Does anybody else have anything further in Cases 12,015 and/or 12,017?

These cases will be taken under advisement.

We have a couple more cases to call at this time.

MR. CONDON: Mr. Stogner, would you -- Do you want us to leave the Exhibit 39 here?

EXAMINER STOGNER: I would like that, yes.

MR. CONDON: Okay.

(Thereupon, these proceedings were concluded at 4:05 p.m.)

* * *

CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL September 10th, 1998.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998