STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

EXAMINER HEARING

IN THE MATTER OF:

Application of Santa Fe Energy Operating Partners, L.P., for compulsory pooling and a non-standard gas proration unit, Eddy County, New Mexico. Case 9797

TRANSCRIPT OF PROCEEDINGS

BEFORE: VICTOR. T. LYON, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

November 1, 1989

CUMBRE COURT REPORTING
(505) 984-2244

HEARING EXAMINER: Next called case, 9797.

MR. STOVALL: Application of Santa Fe Operating Partners, L.P., for compulsory pooling and a non-standard gas proration unit, Eddy County, New Mexico.

Applicant requests this case be continued to November 29, 1989.

HEARING EXAMINER: Case 9797 is continued to the Examiner Hearing on November 29, 1989.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9797, heard by me on November 1989.

Oil Conservation Division, Examiner

CERTIFICATE OF REPORTER

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

I, Diana Abeyta, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; 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 January 3, 1990.

Diana Abeyta

DIANA ABEYTA
CSR No. 267

My commission expires: May 7, 1993

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

EXAMINER HEARING

IN THE MATTER OF (Consolidated):

Application of Exxon Company, U.S.A., for compulsory pooling, a nonstandard proration unit, an unorthodox gas well location, and an exemption to Special Rules and Regulations governing the Rock Tank-Upper and Lower Morrow Gas Pools, Eddy County, New Mexico. Case 9832

Application of Santa Fe Energy Operating Partners, L.P., for compulsory pooling and a nonstandard gas proration unit, Eddy County, New Mexico. Case 9797

TRANSCRIPT OF PROCEEDINGS

BEFORE: MICHAEL E. STOGNER, EXAMINER

STATE LAND OFFICE BUILDING

SANTA FE, NEW MEXICO

November 30, 1989

ORIGINAL

CUMBRE COURT REPORTING
(505) 984-2244

A P P E A R A N C E S

FOR THE DIVISION:	ROBERT G. STOVALL Attorney at Law Legal Counsel to the Divison State Land Office Building Santa Fe, New Mexico
FOR THE APPLICANT EXXON:	KELLAHIN, KELLAHIN & AUBREY Attorneys at Law 117 N. Guadalupe Santa Fe, New Mexico 87504 BY: W. THOMAS KELLAHIN, ESQ.
FOR THE APPLIANT SANTA FE ENERGY OPERATING PARTNERS, L.P.:	PADILLA & SNYDER 200 W. Marcy, Suite 216 Santa Fe, New Mexico 87504 BY: ERNEST L. PADILLA, ESQ.

I N D E X

E X H I B I T S

HEARING EXAMINER: This hearing will come to order. At the request of the General Counsel for both Exxon and Santa Fe, I'm going to call Case Numbers 9832 and 9797.

MR. STOVALL: Case 9832, the application of Exxon Company, U.S.A., for compulsory pooling, a nonstandard gas proration unit, an unorthodox gas well location, and an exemption to Special Rules and Regulations governing the Rock Tank-Upper and Lower Morrow Gas Pool, Eddy County, New Mexico.

Case 9797, application of Santa Fe Energy Operation Partners, L.P., for compulsory pooling and a nonstandard gas proration unit, Eddy County, New Mexico.

HEARING EXAMINER: At this time I will consolidate these two cases for the purpose of testimony and call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin & Aubrey. I'm appearing today on behalf of Exxon.

HEARING EXAMINER: Any other appearances.

MR. PADILLA: Mr. Examiner, my name is Ernest L. Padilla for Santa Fe Energy Company.

HEARING EXAMINER: Are there any other

appearances? There being none, Mr. Kellahin, do you have any witnesses to be sworn today?

MR. KELLAHIN: Yes, sir, I have four witnesses to be sworn.

HEARING EXAMINER: And, Mr. Padilla?

MR. PADILLA: I have two witnesses. And let me correct my entry of appearance. My entry is for Santa Fe Energy Operating Partners, L.P.

HEARING EXAMINER: What did you say before?

MR. PADILLA: "Company."

HEARING EXAMINER: Will the witnesses please stand and be sworn at this time.

(Witnesses sworn.)

HEARING EXAMINER: Are there any opening statements before we get started, gentlemen?

MR. KELLAHIN: Mr. Examiner, if you please, the case before you is masquerading as a compulsory pooling case, if you will, but the issues to decide are really not compulsory pooling issues.

The dispute between the parties, Mr. Examiner, is twofold. One, the Section 20 that is in discussion, shown on Exxon's proposed Exhibit No. 3, is in an area adjacent to two different Morrow gas pools.

The pool outlined on Exhibit No. 3 to the north and west, it shows an area described in a dashed line is Rock Tank-Upper and Lower Morrow Pool. That Morrow Pool is based on 640-acre spacing. Section 20, the testimony will show you is a short-sized section of just under 600 acres.

To the south and to the west of Section 20 is the Baldridge Canyon Morrow, which is based on 320-acre spacing.

One of the fundamental issues for you to resolve and one of the areas of dispute between the parties is a contention as to which of the two pools, if either, Section 20, ought to be initially dedicated. It's Exxon's contention and our geologic proof that Section 20 is separate and distinct from the Rock Tank Morrow, and that we propose that Section 20 be developed on 320-acre spacing; that there is further geologic indications to show that there is a potential separation, geologically, from either the Dark Canyon Penn Gas Pool or the Baldridge Canyon Morrow Gas Pool to the south and west. We believe then it's going to be appropriate to space Section 20 on statewide Morrow gas spacing.

That is the first area of concern and one of the areas which you'll need to resolve for us.

Within the context then of the compulsory pooling application, a dispute has arisen between Santa Fe and Exxon over the development of Section 20 itself.

When you look at Section 20, the land testimony will demonstrate to you the south half of this section is a single federal lease. The lessee is Amoco.

When we look at the north half of the section, except for this 37 acres located in the northwest of the northeast, which is controlled by Santa Fe Operating Partners, the balance of the north half of the section consists of another federal lease, the lessee of which is Exxon.

Exxon has proposed to Santa Fe and Santa Fe has rejected Exxon's proposal that the orientation of the 320-acre spacing unit be an east-half orientation. So part of the issue to resolve is a determination of how to orient the initial spacing unit in the pool for Section 20.

Santa Fe contends it should be a north-half orientation. Our proof and one of the issues for you to resolve then is our contention of an east-half orientation. That's the second issue.

You see on Exhibit No. 3 that there are

some dots on that display; two of them are red, and one is a dark blue dot. There is a difference of opinion between the companies as to where to locate the initial well for the development of the section.

Our application for compulsory pooling doesn't seek to have Exxon named as the operator. We propose that Santa Fe be the operator. There's no dispute on the AFE. Hopefully, there's no dispute on the overhead charges or anything else about compulsory pooling except the orientation and location of that well.

In our application for compulsory pooling, we had, based upon geologic analysis, proposed that the well in the east half be at an unorthodox location, 660 out of the north and east lines of Section 20. Subsequent to my filing that application, we had one of our technical people go onto the surface of Section 20 to determine for us whether or not that was going to be an acceptable topographic location, and he determined that it was not.

I've advised Mr. Padilla that we are amending our request for the location of what is described on this display as the El well, which is the Exxon well.

We propose to move to a more standard

location, which is still unorthodox, Mr. Examiner, but that location in the northeast quarter is proposed to be 1,500 feet from the north line and 1,100 feet from the east line. And that's approximately where we have spotted the red dot that shows E1.

We've spotted, for purposes of discussion, the approximation of Santa Fe's amended location for what is described as the S1 well. That location is 1,980 from the north line and 1,980 from the west line, and that would be consistent with standard well locations for 640-acre gas spacing.

Initially, before Santa Fe amended its application and sought, in the alternative -- they initially sought the north half of the section as the spacing unit; they had a well spotted 1,980 from the north line -- I'm sorry -- 990 from the north line, and 1,980 from the east line; they had it spotted on their 37 acres.

Then they amended their application, as you can see, and they requested 1,980 from the north, 1,980 from the west as the well location for a well now to be dedicated either 640 spacing or, in the alternative, 320 spacing, being the north half.

The E2 spot is what our testimony will demonstrate to you is what we believe to be the best

location for the second well to be developed in the section, and that would be the E2 well to be developed for the west half spacing unit.

Our proposed specific location for that well would be 1,700 feet from the north line and 1,300 feet from the west line.

In conclusion, then, Mr. Examiner, the difference between the parties at this point is a determination as to what the spacing is for the section, which pool, if any, it ought to be applied to, and then within the section, the orientation of the spacing unit and the location of the well. And in the context of the pooling cases then those are the issues that I think are in contention.

HEARING EXAMINER: Mr. Padilla?

MR. PADILLA: Mr. Examiner, we believe this case is a strict compulsory pooling case that is dictated by the Upper Tank or Rock Tank-Upper Morrow and the Rock Tank-Lower Morrow Special Pools. They call for 640-acre spacing.

Our application requests a nonstandard proration unit only because there are 599 acres in Section 20, not by virtue of 320 or 640 type of dichotomy.

The control that we have to go by and that

the Santa Fe Energy has been advised by the OCD's Artesia office is that 640-acre spacing applies by virtue of the Rock Tank Special Pool Rules, and that is why the application of Santa Fe Energy was amended from 320 acres to 640 acres.

In addition, the testimony that our landman will testify to is that he has, or Santa Fe Energy has sought the advice of the United States Department of Interior, Bureau of Land Management in Roswell, and they have perceived a preliminary indication that an east-half proration unit will not be approved or communitization agreement simply because you're splitting two federal leases in a manner that's unacceptable and against public interest of the United States insofar as the development of the section is concerned.

Our geologic testimony will also show that a well in the northeast quarter and a well in the southeast quarter will be better able to develop a section should we go to 320 acres and should the Division approve the exemption of Exxon to grant 320-acre spacing.

We believe, however, that the control here is going to have to be dictated by the One-Mile Rule that the 640-acre spacing applies because of the

proximity to the Rock Tank Field. You have Section 18 that has to be completely included in the Rock Tank because that is now spaced on 640 acres, and you're right up against Section 18, or Section 20 is right up against Section 18, and it's adjacent. It's not even a question of whether or not 320 acres is appropriate.

The burden of proof is going to have to be on Exxon to show that there's some anomaly or something to separate the Rock Tank from the Section 20. In order to do that, they would have to prevail. In order to prevail, they would have to show that kind of anomaly between Section 18 and Section 20.

Again, to make my opening argument or statement brief, it's just simply a question that it's a straight compulsory pooling issue based on 640 acres.

The application of Exxon does not call for creation of special pool rules for a different pool, and neither can there be until a well is actually drilled in Section 20 to decide whether or not drainage on 320 acres or 640 acres is appropriate.

HEARING EXAMINER: Thank you, Mr. Padilla.

Gentlemen, Exxon appears first on the docket today. Santa Fe has a lower number. By virtue

of the way you guys are sitting here today, I assume that Exxon is to lead off in this matter?

MR. KELLAHIN: I'm happy to go first, Mr. Examiner.

HEARING EXAMINER: Mr. Padilla?

MR. PADILLA: That's fine.

HEARING EXAMINER: Mr. Kellahin?

MR. KELLAHIN: At this time we'd call Exxon's landman, Mr. Brockman King.

BROCKMAN KING,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. King, would you please state your name and occupation.

A. My name is Brockman King. I'm a senior landman for Exxon Company, U.S.A., in Midland, Texas.

Q. Mr. King would you summarize for the examiner your educational background?

A. I have a B.B.A. in Management from Texas Tech University that I received in 1975. I have the equivalent of a P.L.M. from the Unversity of Oklahoma that I received in 1983.

Q. Subsequent to your graduation, would you

describe for us what has been your petroleum experience as a petroleum landman? Would you describe your employment experience as a petroleum landman?

A. I have been with Exxon for seven years as a landman.

Q. Do you have any knowledge or involvement with regards to land matters in the area in question before the examiner today?

A. Yes, sir, I do.

Q. Have you made yourself familiar with the interest in Section 20 located on Exhibit No. 3, which is a portion of an area in Eddy County, New Mexico?

A. Yes, sir, I have.

Q. What specifically is your involvement in this case, Mr. King?

A. Basically, I was charged with looking at the application for forced pooling by Santa Fe and for attempting to negotiate a settlement in conjunction with that. And when it became apparent that that negotiation was not going to be complete, then I further did investigation on the case.

Q. Have you made yourself familiar with the ownership of the various mineral interests within Section 20?

A. Yes, sir, I have.

MR. KELLAHIN: At this time, Mr. Examiner, I tender Mr. King as an expert petroleum landman.

HEARING EXAMINER: Are there any objections?

MR. PADILLA: No, sir.

HEARING EXAMINER: Mr. King is so qualified.

Q. (BY MR. KELLAHIN) Mr. King, let me have you turn to the package of exhibits that I have passed out. I'd ask you to take what is marked as Exhibit No. 1, which is the plat of this area?

A. Yes, sir.

Q. And identify that display for us.

A. This is a plat in Eddy County, New Mexico, Township 23 South, Range 25 East. I have colored in on this plat Section 20. Exxon's ownership is in yellow, which is 261 acres. 37 acres is colored in blue by Santa Fe. And the remaining acreage in the south half is 299 acres owned by Amoco.

Q. Would you describe for us the type of leases that are involved in Section 20?

A. Exxon's lease is a federal lease that was bought at the competitive oil and gas sale of August 19, 1987. That lease took effect on October 1, 1987, for a five-year term. Amoco has a federal lease in

the south half. That lease is HBP. And Santa Fe has a 37-acre fee mineral lease in the northwest quarter of the northeast quarter of Section 20.

Q. Are you aware of or familiar with the primary term of the Santa Fe fee lease in the northwest of the northeast?

A. I do know that their primary term expires, I believe, in August and September of 1994.

Q. And the primary term of your federal lease in the north half of Section 20 expires when, Mr. King?

A. That expires on October 1, 1992.

Q. Does Exxon have other mineral interests in this immediate area either by ownership or leasehold interest?

A. Yes, sir, we do. Exxon at the same sale bought all of Section 17. That primary term expires on 11-1-92. That is a federal lease also. We also have extensive leasehold to the east, which I have not colored in on this map, approximately three miles.

Q. When we look at Section 16, which is the diagonal northeast offset to Section 20, what is your understanding of the ownership of that section?

A. My understanding of the ownership of Section 16 is that Siete Oil & Gas has a state lease

that expires 11-1-93 for all of that section with the exception of the northeast of the northwest quarter which Siete Oil & Gas also has. That primary term expires 8-1-94. They paid $312 for that small portion. They paid $200 an acre for the remainder of Section 16.

Q. When we look at Section 21, would you describe your understanding of the working interest ownership or the leasehold ownership in 21?

A. According to my plat on Section 21, Santa Fe Energy has all of that -- beg your pardon -- they have all of the east half of that section. They also have all of the west half of Section 21, with the exception of the southwest of the southwest quarter of said section.

They bought that section at the same lease sale that we did, competetive lease sale. Their primary expiration for the west half of that section is 11-1-92, and they paid $67 an acre for that half section.

Q. You describe in your opening statement, Mr. King, that you have been involved on behalf of Exxon in negotiating or attempting to negotiate on a voluntary basis your participation with Santa Fe and with Amoco for the formation of a spacing unit for the

drilling of a Morrow well in Section 20?

A. Yes, sir, that's correct.

Q. Have you been successful in obtaining a voluntary agreement for participation in a well with the working interest owners in that section?

A. No, sir, we have not reached agreement.

Q. And why not, sir?

A. I think there are basically two reasons that we have not reached agreement. Number one, Santa Fe has proposed that they have come up with a situation where the pooling was changed from a 320-acre to a 640-acre situation. Also, we have not come to the agreement as to what the geologic orientation should be should this come to a 320-acre proration situation.

Also, I'd say, the third factor involved is that we offered Santa Fe a farmout at their request, and they didn't like our terms.

Q. Let me ask you to turn to what is marked as Exhibit No. 2 and tell me what Exhibit No. 2 contains.

A. Sir, Exhibit No. 2 contains all of my written correspondence with both Siete Oil & Gas and Santa Fe Energy Operating Partners, L.P. It also contains several compulsory hearing applications, both

on the part of Santa Fe Operating Partners, L.P., and Exxon Company U.S.A.

Q. Within Exhibit 2, you have numbered each of the pages in Exhibit 2, 1 through page 22, I believe?

A. Yes, sir, that's correct.

Q. Let me ask you to turn with me to page No. 10 of Exhibit No. 2.

A. Yes, sir.

Q. What is this, Mr. King?

A. This is a letter from myself to Mr. Patrick Tower, dated October 19, 1989, whereby I have outlined, number one, the fact that Mr. Tower's letter to Exxon proposing a farmout or joint situation provided no terms for a farmout, which I find highly irregular.

In this letter, I have a number 1 and a number 2 indented. The number 1 is where Exxon offered a farmout to Santa Fe for the east half of Section 20. In this offer, we offered -- Exxon offered to deliver a 75 percent net revenue interest. We would retain the difference between the royalty and 25 percent, and Exxon did not reserve any back-in after payout, which is a very generous and unusual offer.

Q. Let me interrupt you for a moment.

A. Yes, sir.

Q. Within the context of your proposal for a farm-out term on the east half of Section 20 as shown in your paragraph 1, did Mr. Tower on behalf of Santa Fe respond to that proposal?

A. Mr. Tower, in correspondence, dated October 26, 1989, basically skirted the issue by saying that they had suddenly learned by a telephone call to the OCD that the spacing would now be 640, which would certainly negate this opportunity of having a farmout from Exxon on the east half of Section 20.

Q. Let's look at Mr. Tower's letter, which is pages 11 and 12, and let me direct your attention to the last paragraph on the first page, which begins: "Santa Fe will entertain"?

A. Yes, sir.

Q. If you'll read through that for me, I want to ask you a question. Just read it to yourself, and then go to page 2, and finish the sentence.

A. Yes, sir.

Q. Is it a correct statement to say that Santa Fe would have accepted what you've characterized as an attractive farm-out agreement provided Exxon would agree to dedicating the entire section in terms of a farmout to them?

A. Yes, sir, I think with the exception of the one-third back-in, that is a correct statement.

Q. When we look at your letter, Mr. King, on page 10 --

A. Yes, sir.

Q. -- you have a reference at the top just below the date of October 9, and you refer to a well location. It says 1,980 from the east line and 660 from the north line?

A. Yes, sir, I do.

Q. What's that mean?

A. That reference on the dated letter of October 19, 1989, page 10 of Exhibit 2, is a reference to the in re of Santa Fe's initial proposal to us. The Escalante Federal Com "20" #1 is Santa Fe's name for their particular project in this area. The 1,980 feet from the east line by 660 feet from the north line was the initial Santa Fe proposed well.

I will point that out to you in their exhibit. I have in my hand a letter from Santa Fe. It is Exhibit 2, page 2, dated August 25, 1989, to Mr. Joe Thomas from Patrick Tower, whereby in the in re, he states: "The Escalante Fed Com "20" #1, 1,980 feet from the east line and 660 feet from the north line."

So essentially, sir, my in re in my letter

is in response to the in re in his correspondence to me.

Q. Let me direct your attention now to Mr. Tower's letter. You have sent him a proposal with regards to the orientation of the spacing unit to be an east half, and he's responded to you?

A. By that response, sir, are you referring to his letter back to me dated October 26, 1989?

Q. Yes, sir.

A. Yes, sir, that's correct.

Q. By way of that letter then, Santa Fe Energy Operating Partnerships rejected your proposal to orient the spacing unit with an east-half orientation?

A. Yes, sir, that's correct.

Q. What were the reasons that Mr. Tower told you that Santa Fe was rejecting Exxon's proposal?

A. Sir, I essentially at this point would say there are three reasons. And I believe Mr. Tower is wrong. I believe he's very wrong.

The three reasons essentially, in my summation of his letter, the first would be that he says that the BLM, and I quote out of paragraph No. 3 --

Q. It's on page 11?

A. Yes, sir, this is on page 11, Exhibit 2.

Going down to the third paragraph on the fifth line: "The BLM will not approve a communitization agreement if it can be independently developed and operated in conformity with an established well-spacing program."

Sir, I believe that to be an erroneous statement and a presumption on Mr. Tower's part in that I personally called the BLM myself. They said they most assuredly would take that federal lease and examine it, and if Exxon or any other party could produce a geologic situation or reason whereby it could be proved that it would be advantageous, that they most assuredly would communitize and break that lease, and there would be no problem with that.

Mr. Ormando Lopez is the one that told me that from the Roswell office.

Sir, I believe reason No. 2 is that -- and reason No. 2 for Mr. Tower being incorrect, is that the north half or the east half or the west half, any three of those 320-acre proration units in that section with the exception of the south half and/or including a 640-acre proration unit will have to be unitized, or we will not drill the well. That is the second reason for Mr. Tower being incorrect.

And the third reason I bring up that Mr. Tower is incorrect in my estimation, sir, is that

there has been no well proposed in the south half whatsoever, and so that is a moot point.

Also, if you go down to the third paragraph in Mr. Tower's letter, Exhibit 2, page 11, come to the third paragraph, at the very bottom, it says: "It is our understanding the BLM, and I quote, "will not communitize said tract irregardles of OCD approval of the same."

So essentially what Mr. Tower is saying is that whatever Mr. Stogner or this committee or the OCD rules, the BLM is not going to pay any attention to it. Essentially, the BLM will not allow the south half to be communitized regardless of what the OCD says, and I believe that is a very erroneous presumption and statement, sir.

Q. Did Mr. Tower, either in his letter or telephone conversations with you, Mr. King, tell you that there were any other reasons for Santa Fe rejecting Exxon's proposed east-half orientation of the spacing unit?

A. Sir, I believe the two reasons that Mr. Tower proposed to me that Santa Fe was not accepting the east half, number one, again, is based on the BLM noncommunitization presumption. Number two is that he feels that there is no reason for a location base

geologically to do this. And I believe at this point that he is simply saying that topographically they cannot find a reason to drill a well on the east half, and I see no reason -- he has given me no reason geologically whatsoever, simply topographically.

And I would refer you, sir, back to a letter, back to, again, the letter we've been talking about. In the second paragraph, it states that Santa Fe has staked approximately four locations, and that the only viable location appears to be 1,980 by 1,980 from the west line of the west line of Section 20. I simply -- I'm not sure they know where they want to drill. I think they've gone out there and found out they don't know where to put a rig, and I've had no geologic explanation whatsoever.

Q. The word "viable" then in your opinion refers to topographic viability?

A. Yes, sir, I would say that's correct.

Q. Let me refer you back to Exhibit No. 1, Mr. King.

A. Yes, sir.

Q. There is in Section 16 on this display in the southwest quarter of that section a well location, if you will.

A. Yes, sir.

Q. Are you familiar with or do you have knowledge about that well spot?

A. Yes, sir, I do.

Q. What does that represent, to your understanding?

A. Sir, that well spot in the southwest quarter of Section 16 was a permitted and staked well by Siete Oil & Gas. Mr. Tower informed me that they were, in some fashion or another, involved with Siete in the staking of that well and in the possible future drilling of that well.

Q. That well is targeted as a Morrow gas well?

A. That's my understanding.

Q. All right, sir. What happened?

A. Upon verbal communication with Mr. Tower, he informed me that, originally, that that well would be drilled by Santa Fe and Siete. As I talked to Mr. Tower, I asked him, "Then how did you suddenly become interested in this 37-acre tract," being the northwest of the northeast in Section 20, "being as you only had 37 acres surrounded entirely by Exxon acreage, Santa Fe acreage directly offset to the east, and Siete acreage directly offset to the northeast?"

At that time Mr. Tower told me that Siete is indeed a partner in some fashion or another with

Santa Fe in this 37 acres in the northwest of the northeast quarter, Section 20, and that originally they had staked that well at the southwest of 16, and then the management -- at what level I do not know; I assume upper at this point -- came to Mr. Tower and his people and told them, "I want a well drilled in the northwest of the northeast of Section 20. This is a top priority. I am not particularly that interested in the well in Section 16."

That was my understanding of that conversation at that time, sir, and I would further say that Siete Oil & Gas, on January 26, 1989, had come to Exxon, which is Exhibit 2, page 1, proposing that working interest unit.

Q. Let's look at the proposed working interest unit for a minute, Mr. King --

A. Yes, sir.

Q. -- referring to page 1 of Exhibit No. 2, which is what, sir?

A. That is a letter from Siete Oil & Gas Corporation to Exxon Company, U.S.A., dated January 26, 1989, with more specifically, Attention: Mr. Joe Thomas, a proposed Escalante working interest unit being in Township 23 South, Range 25 East, Eddy County, New Mexico, containing the following acreage,

which is Section 16 all, Section 17 all, Section 20 east half only, and Section 21 all, being in Eddy County.

Q. What was the purpose of this proposal by Siete to Exxon?

A. The purpose of this, sir, was to form a working interest unit of the aforementioned 3-1/2 sections or -- correction -- for an 11,000-foot Morrow test to be located in the southwest quarter of Section 16, T 23 South, Range 25 East, Eddy County, and if Exxon chose not to join as working interest, sir, Siete proposed at to that time that we would farm out.

Again, Siete, as did Santa FE, offered no terms for farmout whatsoever, which is highly irregular to receive a request for a farmout offering no terms.

Q. And based upon that then, Exxon rejected both of those offers to farm out at those times?

A. Yes, sir. The basic reason that we rejected both of those, number one, at the time that Siete came to Exxon, our lease was only approximately 13 months old. We were 13 months into a five-year primary term that I might mention that Exxon bought at a competitive lease sale of good faith and due

diligence without plans of developing, and assuming out of this lease both in certainly a written manner that we had a five-year term in which to develop this acreage that we purchased.

When Siete came to us, and we rejected them, approximately seven months later, Santa Fe came to us also. We were now 20 months into our primary term of a five-year lease. And at that time Exxon told Santa Fe and Siete both -- well, first of all, it told Siete on March the 7th that they were not interested in joining the unit or farming out at that time because it was preliminary. Also when Santa Fe came to us, Exxon told them that we were currently not interested in joining a farming out. That was on September 26.

The basic reason was Exxon geology showed our acreage to be in the most favorable area, and unitization did not currently fit into our company plans of development for that acreage at the present time. We're not even two years into our primary term yet.

Q. Did Siete in their initial proposal to you or at any time request all of Exxon's interest in Section 20?

A. No, sir, they did not. They requested

specifically the east half of Section 20.

Q. Did they ever request the north half of Section 20?

A. Not to my knowledge.

Q. Does Exxon have any objection to Santa Fe being the operator of the proposed well provided it's an east-half orientation, and that a well location itself is one that's suitable and acceptable to Exxon?

A. No, sir. In fact, we have, on several occasions, verbally -- I have verbally and personally told Mr. Tower that we welcome Santa Fe to operate; that we feel like that would be a good situation. And certainly in my letter to Mr. Tower, dated on October 19, 1989, which is, again, Exhibit 2, page 10, although I do not state that in writing my letter infers that Santa Fe would operate that.

Also, in your application of compulsory pooling, dated November 7, 1989, I refer to page 19 of said letter whereby you say that Santa Fe Energy Operating Partners, L.P., designate as operators for a well to be drilled in the northeast of said section.

And, again, you make mention of that on No. 2 of that application, page 20. You say, applicant, being Exxon, desires to have Santa Fe Operating Partners, L.P., designate operator for a well to be

drilled at an unorthodox location, northeast quarter, Section 20.

Q. Let me direct your attention, Mr. King, to pages 2, 3, and 4 of Exhibit No. 2 in which Mr. Tower has transmitted to Exxon a proposed AFE for the drilling of this well in Section 20?

A. Yes, sir.

Q Does Exxon have any objection to the estimated cost for drilling and completing the well that Santa Fe would operate?

A. Santa Fe, sir, offered this -- two copies of this AFE back on August 25, 1989. They gave a dry hole and a producing completed well scenario. We have no objections to this AFE at this time, sir.

Q. Again, provided the orientation of the spacing unit and the well location is as Exxon proposes?

A. Yes, sir. Obviously, this would be the AFE for an agreed-upon well at an agreed-upon location.

Q. Has Santa Fe ever submitted to you a proposed Joint Operating Agreement?

A. No, sir, they have not.

Q. Do you have a recommendation to the examiner as to the type of Joint Operating Agreement, including the overhead rates for a producing well and

a drilling well rate that you would recommend to the examiner?

A. Yes, sir, we do. At this time we feel probably that the Standard Joint Operating Agreement, 1982 Model Form Operating which is currently in use, would be very sufficient for our needs, and also we would certainly want to follow the Ernst & Whinney overhead rates for said agreement.

Q. Can you specifically tell Mr. Stogner the overhead rates that would apply from the Ernst & Whinney tabulation for a well at this depth in this area?

A. Approximately $5,800 or $5,900 as the average or mean. and approximately the monthly rate of $614, $615 a month, something like that, sir.

Q. Give me the rates again. The monthly rate for a drilling well?

A. $5,885 and $614 for the monthly.

Q. During the course of your efforts, Mr. King, to consolidate on a voluntary basis the working interest ownership in the east half of Section 20 for participation in the well, have you had an opportunity to contact Amoco who has the interest in the south half of the section?

A Yes, sir, indeed I have

Q. Have they made a decision on whether to participate in a well at this point?

A. Sir, they have made no decision. In fact -- well, yes, they have made a decision not to protest, not to side with Exxon or Santa Fe in a protest or a joinder situation.

Q. So despite the agreement, if any, between Santa Fe and Exxon, there will be a need for compulsory pooling order that would include notice and opportunity for Amoco to participate in the well pursuant to the pooling order?

A Yes, sir. I believe that's correct

Q. You've identified Exhibit No. 1 as being prepared under your direction and have described that information.

Was Exhibit No. 2 documents that you have received or have been taken from Exxon's files that have been generated during the regular course of developing a correspondence file with regards to this particular project?

A Yes, sir, that's correct.

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

We would move the introduction of his Exhibits 1 and 2.

HEARING EXAMINER: Exhibits 1 and 2 will be admitted into evidence, if there's no objection.

MR. PADILLA: No objection.

HEARING EXAMINER: Thank you.

Mr. Padilla, your witness.

CROSS-EXAMINATION

BY MR. PADILLA:

Q. Mr. King, you've stated a number of times that you're only in the second year of the primary term of the oil and gas lease that you have of those lands under lease by the BLM to Exxon in the north half of Section 20. In regard to that, does Exxon wait until the fifth year to drill its leases, or does Exxon have a policy of amortizing primary terms on its oil and gas leases in order to decide whether to drill or not to drill wells?

A. Sir, I would say that we have no stated policy on what point on the primary term that we drill. I simply say that by buying that lease at a competitive sale at which that acreage was certainly open to Santa Fe at that time, we have bought the right to develop that lease whenever we want to.

Q. And you also recognize that Santa Fe has an interest in the north half of Section 20; isn't that correct?

A. Yes, sir. As a matter of fact, I recognize that Santa Fe owns 6 percent out of that entire section. Sir, I think we have a situation where the tag is actually wagging the dog here. I feel like that Santa Fe has bought a very small amount of acreage. They own 37 acres out of approximately 599. I see Santa Fe coming in as an intrusion on us at this particular time, under duress or coercion, if you would, sir, to go in and try to force a well which at this time we feel is premature.

Q. Can you tell me why you made a decision or why Exxon made a decision not to participate in the working interest unit proposed by Siete?

A. Yes, sir. Again, we feel like at this time that it's premature. We have some plans to run some seismic and do further development on this acreage in the future. We feel like right now that it is not time or appropriate if we do not have enough data or enough analysis of the acreage to drill a well or participate in that unit.

We feel like essentially Santa Fe is charging in to do something that's entirely premature, and we're not prepared to participate in something that we're not sure is going to be the best situation for Santa Fe or Exxon at this time.

Q. Could you also look at that situation as you intended to ride Siete's well down and find out what the results of Siete's well would be under the working interest unit?

A. No, sir, I don't think we could look at that.

Q. It would be helpful --

A. We'd obviously like to see a well drilled. By "ride it down," what's your definition of that?

Q. I think --

A If we have no working interest in it, I would not say effectively that we're riding a well down.

Q. You would like to see a well drilled somewhere in that area before you drilled yours, wouldn't you?

A. That would be nice.

Q. Mr. King, when did you change your location from 660 out of the northeast corner to your current location?

A. Sir, I had first knowledge of that several days ago. I don't know at what point exactly when the geologist determined that.

Q. When did you send somebody out to the field to decide whether you had a topographical location?

A. To my knowledge, that has been done within the past month. I'm not sure exactly what day that was done on.

Q. Well, was that in the last week?

A. I honestly cannot tell you. I do not know when that was done.

Q. Who's in charge of that?

A I beg your pardon?

Q. Who's in charge of that?

A Civil engineering department.

Q. Isn't it true that at one of your last meetings with Santa Fe Energy, you were informed that you may not have a location at that 660 from the northeast corner?

A. That we may not have a location?

Q. Yes, because of topography.

A. I was informed that they didn't particularly like that. In fact, I believe the quote was made at that particular meeting, "What are you guys trying to do to us," type situation.

Q. Is 660 out of the corner a viable topographic location?

MR. KELLAHIN: Mr. Padilla, I'll object to the question simply to inform him that I have brought the expert witness that examined the surface, and he's

available, and I propose to call him as a witness later this morning if that will satisfy your point of inquiry. I don't want to interrupt your cross-examination of Mr. King, but I do have the necessary expert that can answer that question.

MR. PADILLA: Well, Mr. Examiner, Mr. King testified about changing of locations, and he did testify concerning the changes of well locations and I think it's fair to ask Mr. King whether he knows or not. If he doesn't know, then --

THE WITNESS: Sir, I'll state at this point, I do not know.

Q. (BY MR. PADILLA) How many meetings did you have with Santa Fe over the past month?

A. Are you talking about conversations or direct meetings?

Q. Direct meetings.

A. To the point of this hearing?

Q. Yes, sir, or drilling a well in Section 20 and trying to make a deal.

A. Okay. Including two encounters at the hotel last night, which were very brief, not discussion business, one in the hall and two lunches, I'd say we've probably been face-to-face five times.

Q. How many telephone conversations have you

had?

A. Sir, to my recollection, with Santa Fe, three. It's either two or three.

Q. When did you decide to file your application for compulsory pooling?

A Sir, that decision was made -- on 11-2-89, Exxon received the forced pooling notice of November 29 or the forced pooling notice by Santa Fe; excuse me. Exxon decided to force pool and made application for compulsory pooling on 11-7-89.

Q. Do you know when Santa Fe actually received notice of your forced pooling application?

A. Sir, the first notice that I had that Santa Fe had received such notice was on approximately 11-14 when I had a phone conversation with Mr. Pat Tower, and he notified me that they had received the order or the application.

Q. Mr. King, you've stated that it's unorthodox or it's not the practice to have terms on proposals made by the companies. Did you at any time indicate what happens when you receive something like that? Do you remain silent, or would it be appropriate for you to respond and say, "Yes, I'd like to farm out on these terms," or something to that effect?

A. Sir, generally, when we receive a request such as this, it goes to our land department, our trades and unitization department. At that point whatever particular landman is assigned to that area -- in this case, it would be Mr. Joe Thomas who handles Exxon trades and units in the State of New Mexico -- will make a pending file. They will assign that trade request a number.

At that time the necessary plats off the Exxon land maps are drawn along with our leasehold information. We fill out a basic trade request form.

At that time also a letter is sent to a company, simply acknowledging receipt of said request and that request is sent over to the appropriate geologist that handles that area who then will ascertain if we are interested in farming out that acreage and what the terms will be.

At that time, if it is approved or disapproved, it is sent back, and then the appropriate landman either writes the trade or sends a standard no interest letter.

Q. But from your testimony it appears that you could respond by saying, "We would farm out under these terms"?

A. Are you saying that I personally could say

that, sir?

Q. Well, your trades group could.

A. Our trades group could if they had authority from the geologist and only in that case. Sir, our trades group does not respond to an applicant or a person requesting the farmout until they have an authority or a no interest from the appropriate geologist.

Q. But in your testimony you've said that having received no terms for farmout --

A. Yes, sir.

Q. -- that that was somewhat highly unorthodox?

A. Yes, sir, it's highly unusual.

Q. But you're not precluding from responding with terms is my question?

A. Excuse me one moment, sir. I don't believe I said it was unorthodox. I said it was highly irregular.

Q. But you could consider even that kind of a proposal and have your trade group respond whether Exxon would be interested in farming out or whatever it desires to do with regard to that request?

A We could possibly look at the acreage and see if we had any desire in that area to farm out

acreage. Generally, though, we would go back to the company to see if they were serious about having terms or whatever. It's just a very unusual situation. It's hard to make a business decision without proposed terms.

Q. Mr. King, did you ever call the Oil Conservation Division and ascertain what the spacing for this area was?

A. Yes, sir, I did call the Oil Conservation Division.

Q. What did they tell you?

A. They told me that based upon just looking at a map that they felt like it would be in the Rock Canyon at that point. I never saw a written notice of such

Q. Rock Canyon or Rock Tank?

A. Whatever it is in that -- just a moment now. Rock Tank Morrow Pool. I'm sorry.

MR. PADILLA: I don't have any further questions. Mr. Examiner.

HEARING EXAMINER: Mr. Kellahin, do you have any redirect?

MR. KELLAHIN: No. sir.

CROSS-EXAMINATION

BY HEARING EXAMINER:

Q. Mr. King, I wanted to make sure that I had one of your statements correct here.

A. Yes, sir.

Q. When you were being cross-examined by Mr. Padilla, you mentioned that Exxon has no desire to develop this area at this time because Exxon felt that there was need for further seismic data or seismic work, and that there wasn't enough information or data available in the area; is that correct?

A. Sir, I believe what I said at that point was that the point of -- are you referring to when Siete made application for the working interest unit, the proposal for the working interest unit?

Q. I believe that was about the time of the cross-examination, yes. I wanted you to verify.

A Yes, sir, I believe I did state that Exxon felt at that time that we geologically had the best acreage involved, and that we would want further evaluation of the acreage; that we felt that forming a working interest at that point, especially having the federal lease only 13 months at that time, that forming a working interest unit was premature at that time, and we would want further evaluation.

Certainly not to infer, sir, that that would not be evaluated or developed, but we feel like

in order to be a prudent participant in a unit or to have a prudent well drilled, which would minimize drainage and certainly be in the best interests of the conservation in developing this acreage, that we need to have a further look to see exactly what would be the optimal location and also the best way to go about it.

Q. Referring to the Siete well in Section 16 --

A. Yes, sir.

Q. -- I believe that you stated that this was a permitted and a staked well; is that correct?

A. That was my understanding, sir.

Q. In the Morrow formation?

A. That was my understanding.

Q. Have you seen this permit?

A. No, sir, I have not.

Q. Do you know, by chance, what the dedicated acreage is?

A No, sir, I do not.

HEARING EXAMINER: I have no other questions of this witnesses.

Are there any other questions of Mr. King?

MR. KELLAHIN: A couple questions in response to what you've asked Mr. King. Mr. Stogner,

if I might.

HEARING EXAMINER: Mr. Kellahin, go ahead.

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Exxon, in fact, proposed terms of a farmout in its letter of October 19, did it not, to Santa Fe?

A. Yes, sir, we did, yes, sir.

Q. Despite the negotiations between the parties, we simply have not gotten agreement, and it's fundamentally evolved around the orientation of the spacing unit and the question of the spacing in the section; is that not true?

A. Yes, sir, that's true. As a matter of fact, pertaining to that, on Item No. 1 of that letter dated October 19, 89, whereby I wrote Mr. Tower, Item No. 1 offered the east half at a 75-25 situation, reserving no back-in, which is very generous.

Our second offer was offering the north half, which Santa Fe had requested, at a 75-25, with a one third back-in.

Q. You understand, do you not, Mr. King, that Santa Fe, even with a 6 percent interest in the section, as a working interest owner has the right to ask the Division, and the Division certainly has the authority to granted them a compulsory pooling order

by which a well will be drilled?

A. Yes, sir, I understand that.

Q. Exxon would have liked to have seismic information and certainly more data in terms of analyzing the development of this section and other areas in which you have an interest in this immediate vicinity?

A. Yes, sir, we do.

Q. But based upon the geology that has been interpreted that now exists, and that information that's available to your company, that based upon that, you have communicated to Santa Fe your company's desire that prudent development of the section would dictate an east-half/west-half orientation?

A. Yes, sir, we have.

Q. When we look at the land plat, Exhibit No. 1, does Santa Fe's working interest percentage increase or decrease if the orientation of the spacing unit is changed from a north half to, say, an east half?

A Would you state that again?

Q. Yes, sir. If we look at Santa Fe's interest in the section --

A. Yes, sir.

Q. -- their percentage in a north-half

oriented spacing unit, is that different from their interest in the orientation of a spacing unit that would be east half? Let me do this again. I've confused you.

They would have no interest in a south-half oriented spacing unit, would they?

A. No, sir.

Q. Would they have any interest in a west-half oriented spacing unit?

A. No, sir.

Q. In the north half, they have an interest?

A. Yes, sir, they do.

Q. In the east half, they have an interest?

A. Yes, sir, they do.

Q. Between the north half and the east half, does that interest change in terms of a percentage?

A. No, sir.

MR. KELLAHIN: No further questions.

HEARING EXAMINER: Mr. King, one more question.

RECROSS-EXAMINATION

BY HEARING EXAMINER:

Q. The overhead charges, $5,885 for drilling and $614 for producing, could you elaborate further on these figures? Where did you get them?

A. These figures, sir, come from the Ernst & Whinney survey results of 1988 for oil wells and gas wells. What I have in depth and feet is approximately 10,000 to 15,000, which is at $5.885 and $614

Now, if they went down to a shallower well, it would go down from $5,885 down to $4.775 and from $614 down to $492, depending on the depth of that well, sir.

Sir, I do have correspondence indicating, if I might find it here, Santa Fe, under amended application, dated October 30, 1989, proposes a well to a depth sufficient to test the Morrow formation at approximately 11,000 feet, which falls within the range of 10,000 to 15,000, sir.

HEARING EXAMINER: I have no other questions of Mr. King. Are there any other questions of this witness?

MR. KELLAHIN: No, sir.

HEARING EXAMINER: If not, he may be excused.

Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner. I'd like to call Mr. Bill Tate at this time.

Mr. Examiner, Mr. Tate's geologic displays are in two sizes. One is a small size that you may

use for the case file. We have taken each of those proposed exhibits and enlarged them and proposed to hang them on the wall of the hearing room for discussion during Mr. Tate's presentation.

WILLIAM TATE,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Tate, for the record, would you please state your name and occupation.

A. My name is William Tate. I am a senior petroleum geologist with Exxon in Midland, Texas.

Q. Mr Tate, have you on prior occasions testified as a petroleum geologist before this Division?

A. Yes, I have.

Q. Would you summarize for the record what is your educational experience and when and where you obtained your degree in geology?

A. I earned a Bachelor of Science Degree in Geology from Oklahoma State University in 1982. I earned a Master of Science Degree in geology from Oklahoma State University in 1985. During my graduate work, I did extensive studies on depositional

environments and sandstones similar to those that are found in the Morrow formation in southeast New Mexico.

Q. Would you describe your professional employment experience as a petroleum geologist, conveying to us what, if any, experience you have in southeastern New Mexico, particularly with mapping and analyzing and coming to conclusions, both regionally and specifically about the Morrow?

A. I was employed by Exxon in June of 1985; therefore, I have worked for Exxon for 4-1/2 years My main duties during that time have been detailed mapping projects, both on a regional and local scale and prospect generation associated with that mapping.

In the last 2-1/2 years, my main duties have been regional and local detailed mapping projects in the Morrow formation of Eddy County, New Mexico.

Q. Is it part of your duties as an exploration geologist to review proposals by other companies that would involve Exxon's acreage or proposing Exxon-operated wells to penetrate and produce from the Morrow formation in Eddy County, New Mexico?

A. Yes.

Q. Have you made a specific extensive study of the available geologic information in the Rock Tank-Upper and Lower Morrow Pools?

A. Yes. I've gathered all pertinent information, including all well logs, scout ticket, cumulative production information, pressure information, etc., in order to analyze the issues at hand in this case.

Q. Have you made a study of available geologic data and made an analysis of that data for the area involved in Section 20?

A. Yes, I have.

Q. And has that included an examination of the geology in the Baldridge Canyon Morrow and the Dark Canyon Penn Gas Pools?

A. Yes, it has.

Q. What were you asked to do by your company, Mr. Tate?

A. I was asked to take the proposal brought forward by Santa Fe and address several issues concerning their application or proposal, and also address and answer several issues concerning Exxon's best interests in developing Section 20.

Q. Have you completed that geologic study and based upon that study come to certain conclusions about those issues?

A. Yes. I are.

MR. KELLAHIN: We tender Mr. Tate as an

expert petroleum geologist.

HEARING EXAMINER: Are there any objections?

MR. PADILLA: None.

HEARING EXAMINER: Mr. Tate is so qualified.

Q. (BY MR. KELLAHIN) Mr. Tate, let me ask you, sir, whether or not you were asked by your company to make an independent geologic study and investigation to determine whether or not - in your opinion, the Morrow formation underlying Section 20 was geologically part of or could be separated from the Rock Tank-Upper and Lower Morrow Gas Pools that existed to the north and west of Section 20?

A. Yes, I have conducted a study.

Q. Do you have a conclusion?

A. Yes, I do.

Q. What is your conclusion?

A. My conclusion is that the Section 20, the section of interest, is geologically separated from Rock Tank and, therefore, is not a part of Rock Tank and should not be dedicated to either the Rock Tank Upper or Rock Tank Lower Morrow Fields.

Q When you look at the relationship of Section 20 geologically to the Dark Canyon Penn and

the Baldridge Canyon Morrow, do you have a geologic opinion as to whether or not Section 20 ought to be placed in either one of those pools?

A. Yes, I do.

Q. What is that opinion?

A. My opinion is that any well in Section 20 should be a wildcat location and therefore not included in either the Dark Canyon Penn Field or the Baldridge Canyon Morrow Field.

Q. Based upon your geologic studies, do you have a conclusion with regards to what in your opinion is the appropriate spacing to apply to Section 20 for a Morrow gas well?

A. Yes, I do.

Q. What is that?

A. I believe the appropriate spacing to thoroughly develop the interests, the gas associated with Section 20, is 320-acre spacing units.

Q. In addition to examining the relationship of Section 20 to the pools in the immediate vicinity, have you made a study of and reached geologic conclusions about the orientation within Section 20 of the 320-acre, approximately, spacing units?

A. Yes, I have.

Q. What conclusion have you reached?

A. My conclusion is that the optimum orientation of spacing units in Section 20 should be stand-up proration units. In other words, the Section 20 should be developed with the Morrow well in the east half of Section 20 and the Morrow well dedicated to the west half of Section 20.

Q. As part of your geologic study, Mr. Mate, have you come to a geologic conclusion concerning the location of wells within Section 20?

A. Yes, I have.

Q. What is your recommendation to the examiner as to the location of the initial well in Section 20 to test the Morrow formation?

A. The initial well in Section 20 should be located at a location of 1,500 feet from the north line and 1,100 feet from the east line in the east half or, more specifically, in the northeast one quarter of Section 20.

Q. Based upon the current available geologic information that you have analyzed, do you have a proposal to the examiner with regards to the potential location of the second well in Section 20?

A. Yes, I do.

Q. What is your recommendation?

A. At this time, the recommendation for a

second well to thoroughly develop Section 20 would be located at a location of 1,700 feet from the north line and 1,300 feet from the west line in the west half of Section 20.

Q. Do you have an opinion, Mr. Tate, as to whether or not Santa Fe's proposed orientation of the north half of Section 20 is the best geologic fit for the full development of Section 20 for Morrow gas wells?

A. No it absolutely is not.

Q. In your opinion, should Section 20 be developed on 640-acre gas spacing?

A. Absolutely not.

Q. Let me have you, sir, go to what is marked as Exhibit No. 3, and let me give you a pointer. You have to recognize, Mr. Tate, that the hearing room is not very suitable for doing this kind of presentation, but let's have you speak up so the court reporter can hear you and that we can all understand your position.

Let me, first of all ask you before we get into some of the specifics, if you'll simply take a moment and identify for us the first display on the well, which is Exhibit No. 3 What is that?

A. Exhibit No. 3 is an exhibit that I

prepared. It's a map of cumulative production as of December 1988 for all Morrow-producing wells in the vicinity offsetting Section 20 of Township 23 South, Range 25 East.

Q. Am I correct in understanding that each and every one of the geologic displays that you're going to discuss this morning were prepared by you?

A. Yes, they were.

Q. This is your work product and your analysis, is it not, Mr. Tate?

A. Yes, it is.

Q. Let's go to Exhibit No. 4. Would you identify that for us?

A. Exhibit No. 4 is a structural contour map for the Baldridge Canyon-Rock Tank area. It was constructed on the base of the Middle Morrow shale marker, a consistent, widespread, stratigraphic datum typically used for the construction of structure maps throughout all of southeast New Mexico.

Q. Let's go to Exhibit No. 7. Would you identify that one for us?

A. Yes. Exhibit No. 7 is a gross standstone isolith map for the Lower Morrow Sandstone in the Baldridge Canyon-Rock Tank area. The Lower Morrow Sandstone is by far the most prolific, and most of the

production in the area can be contributed or dedicated to this particular sand.

Q. Let's look at Exhibit No. 8. Would you identify that one for us?

A. Exhibit No. 8 is a gross sandstone isolith map of the Upper Morrow Sandstone. It is second most in importance for significant production in this area.

Q. Let me have you go back, and let's look now at the issue of the separation, as you've concluded it, of Section 20 from the 640-acre spaced Rock Tank Morrow Gas Pools to the north and west.

A. Okay.

Q. First of all, identify for us the geologic feature, in your opinion, that represents the western boundary of the Rock Tank Morrow Gas Pools. Can you show us that?

A Yes. Without a doubt, the western boundary of the Rock Tank Pools, both Upper and Lower, is a very significant fault bounding the west side of the feature.

Q. Have you shown that fault on your Exhibit No. 4?

A. Yes, right here (indicated).

Q. Have Morrow gas wells been drilled north and west of the fault line?

A. Yes.

Q. What has been the result of that drilling?

A. The result of that drilling has been that almost every well northwest of this area has encountered significant thicknesses of sands. However, in every case, they were dry holes

Q. So you can with certain geologic conviction demonstrate that because the fault boundary is on the west, that represents the western limits of the Rock Tank Morrow formation?

A. Yes. I believe that is a very major significant seal on the western boundary.

Q. Looking at the structure map now, have you satisfied yourself that the base of the middle Morrow shale is the best geologic marker upon which to develop a structure map such as this?

A. Without a doubt, it is.

Q. Describe for us what it shows you as a geologist in terms of the structural relationship to the producing gas wells in Rock Tank Morrow and that relationship then to Section 20

A. Sure. The production associated with the Rock Tank field as is illustrated on the structure map, is noted with the gas symbols. As is quite obvious, the gas symbols are at a subsea depth 6 356

or higher. This is significantly updip of the Section 20 acreage which lies or varies from a subsea depth of approximately 6 800 feet in the northwestern one quarter of Section 20. down to 7-100 feet subsea in the southeastern one quarter.

Q. That gives you a vertical structural displacement of approximately how many feet between Section 20 and the easternmost producing gas well in the Rock Tank Morrow?

A. It gives you a displacement of around 400 feet. as an estimate.

Q. Describe for us the type of producing gas wells in Rock Tank Morrow in the eastern extremities of the production for that pool.

A. Okay. The eastern boundary of the Rock Tank Field is definitely structurally controlled also. Past the low proven gas wells, again at a subsea death of 6,356 and 6,345, there is one well located at a subsea depth of 6-650, which is within the same fault block and has encountered -- and I'll be going through that in a second on the exhibits to come -- has encountered significant quantities of sand. However, the tests within this well have been nonproductive; in fact, have encountered water. Therefore, a gas-water contact definitely exists

between the well at a subsea depth of 6 647 and a low proven gas at 6 356.

Q. Describe for us, Mr. Tate, your opinion geologically of what is the lowest structural position at which you will encounter gas in the Rock Tank Morrow Gas Pool?

A. Originally, the low proven gas would have to be somewhere close to these wells in here. Exactly where, I'm not sure. It was not encountered in any of the wells in actual gas-water contact based on the data that I had available to me. But it was obviously someplace between these wells and this well here, which is I will note is significantly updip in relation to the acreage in question.

Q. When you say significantly updip in relationship to the Morrow well in Section 5 to the Morrow structure in 20, what is significant? How many feet?

A It varies, but at least 150 to 200 feet updip.

Q. Is that sufficient vertical difference in structure between Section 5 and 20 to, in your opinion, make Section 20 wet in the Morrow if it is in fact part of the Rock Tank Morrow Gas Pool?

A. Most definitely, it would have to be wet.

It would not make sense for there to be gas downdip of a wet well unless there was some kind of structural or some kind of reservoir boundary, either structural or stratigraphic to provide trapping downdip. Therefore, it cannot be part of our tank.

Q. Geologically, have you also confirmed your conclusions by the preparation of certain structural cross-sections through this area?

A. Yes, I have, and they clearly illustrate the points I have made so far.

MR. KELLAHIN: Mr. Examiner, if we might have a moment, we'll put up Exhibits 5 and 6, which are the structural cross-sections to this area.

HEARING EXAMINER: Okay. Let's take about a five-minute break at this time.

(Thereupon, a recess was taken.)

HEARING EXAMINER: This hearing will come to order. Mr. Kellahin?

Q. (BY MR. KELLAHIN) During the break, Mr. Tate, we have put on the wall of the hearing room Exhibit 5 and Exhibit 6. Would you, before we discuss the details of each of the displays, would you identify for us Exhibit 5 and then Exhibit 6?

A. Yes, sir.

Q. Exhibit No. 5 is a four-well structural

cross-section, which is A-A', which begins up in the crestal portions of the Rock Tank Field down to a key well that I've already discussed and will discuss in more detail, across a major sealing fault, down to a very significant dry hole just downdip of the acreage in question.

Exhibit No. 6 is a five-well structural cross-section, B-B', again beginning at the crestal portion of the Rock Tank Field area crossing the fault, and down to the same well, which is a dry hole in the Morrow just downdip of the acreage in Section 20.

Q. Let's go back to Exhibit No 5, and starting on the western portion of the display, describe again for us what causes you as a geologist to conclude that the western boundary of Rock Tank Morrow pools are fault-controlled?

A. Again, that is best illustrated by this index map which is the same structure map -- well, it was the same structure map as Exhibit No. 4 And, again, it's due to the major bounding northwestern-side fault which separates productive Morrow wells in the Rock Tank Field from nonproductive dry holes.

On the extremely downthrown side, which is on the northwestern side of the fault, this particular

fault here would lie just to the left of the first well on this cross-section, again with the upthrown side being on the Rock Tank Field area side, and the downthrown side would be just to the northwest.

Q. Can you quantify for us the magnitude of displacement between the upthrown and the downthrown side of the western fault?

A Yes. Based on the well control, both closely located to the fault on the downthrown side and then the producing wells within Rock Tank, my best estimate as to the amount of throw on this fault is approximately 500 feet, very significant fault on the amount of throw in the area.

Q. As we began then with the eastern margin of the cross-section and go easterly through the pool structurally, describe for us what happens as we move from the high point of the structure on the west and move towards the east.

A. Okay. The first two wells, again, noted by the gas symbols and also by the annotation at the top of the cross-section, indicate wells that are within the Rock Tank Lower and Rock Tank Upper Morrow Fields. These have been separated by zone.

The Upper Morrow sand, which contributes the majority of the production to the Upper Morrow

Field or to the Rock Tank Upper Morrow Field is noted here, highlighted in yellow.

Both these two wells, the first two wells - the producing wells in Rock Tank on this cross-section, have been completed in the Upper Morrow.

The other highlighted zone is the Lower Morrow Sandstone - which I've already made mention to when I introduced Exhibit No. 7 as being the most significant producing sand in the area - both in Rock Tank Field and Baldridge Canyon, which was noted on the production map to the southwest of Section 20. Both these wells were completed in both the Upper and the Lower Morrow Sands.

As we come to the third well, the third well, the Monsanto Company Rock Tank Unit No. 3 - located in Section 5 of Township 23 South, Range 25 East, is again one of the two key wells which defines the presence of water significantly updip of Section 20. This well was one of the wells that was in the initial development of Rock Tank Field.

The discovery well of the Rock Tank Unit No. 5 was drilled and completed in January of 1968.

Q. Excuse me, Mr. Tate, you said 5, but it's the Rock Tank 1 in Section 7; that's the discovery

well?

A. Sorry. The discovery well again is the Monsanto Company Rock Tank Unit No. 1. located in Section 7 of 23 South, Range 25 East right there (indicated). The well here was completed in December of 1970, the Rock Tank Unit No. 4 Well in Section 1 near the top of the crest or top of the anticlinal feature associated with Rock Tank.

Q. Let's look at the Rock Tank No. 3 Well in Section 5 and describe the type of tests that were taken by which you then have concluded that it was wet in both the upper and the lower sand.

A Okay. The Rock Tank Unit No. 3 was dry and abandoned in 1969. Prior to its abandonment, it was tested in both the Upper Morrow Sand and in the Lower Morrow Sand, as it encountered significant thicknesses of sand in both. A drill stem test was conducted over both intervals.

The drill stem test in the upper sand recovered 580 feet of formation water-cut mud. It also had a minor show of gas associated with it.

Q. Are you satisfied as a geologist that the zone in which the drill stem test was taken was taken high enough in that Morrow section to have encountered gas if it had been present?

A. Yes.

Q. How about the lower test?

A. The lower test over the Lower Morrow Sandstone interval recovered a 1,000-foot water blanket, 1,650 feet of formation water, and 375 feet of slightly gas-cut mud.

Q. When you look at the Moncrief Horseshoe State #1 Well in Section 29, what does that show you?

A. It shows you a couple things. First off, the Horseshoe State #1 is significantly downdip and across a fault from both the wet well and the Rock Tank Field proper. It encountered the Upper Morrow Sand; however, it did not encounter the Lower Morrow Sand. So my interpretation has the Lower Morrow Sand pinching out just to the north of the Horseshoe State #1 Well.

Q. This is the well drilled in the section immediately to the south of Section 20?

A. Right.

Q. What do you conclude about the Moncrief Well in the Upper Morrow Sand? Was that productive?

A. A drill stem test was attempted across the Upper Morrow Sand in the Moncrief Horseshoe State #1. The results of that DST were that it recovered 120 feet of fluid. That was the only report given. No

gas. It doesn't indicate whether or not it was formation water.

Q. When you examined the geologic relationship between the well in Section 5 and the well in Section 29, what is it about that examination that tells you that you're not simply seeing what represents the northeastern edge of the structure in Rock Tank? In other words, why isn't Section 29 part of Rock Tank?

A Because based on the control in the area I have interpreted a fault to exist between the Rock Tank Unit No. 3 Well and the Horseshoe State #1 Well. This fault is imperative for there to be entrapment of hydrocarbons across Section 20.

Q. Let's look at the second fault that you have on your display. It's the next one going east, and it's the one you've just described.

Describe for us the data that has caused you to place that fault as you've projected it on the display.

A. A considerable amount of data has gone into the interpretation of this fault.

First off, in this localized area offsetting or surrounding the Rock Tank Baldridge Canyon, and the Section 20 acreage, a considerable amount of data in Baldridge Canyon indicates the

presence of a fault with approximately 75 to 100 feet of throw in this area right through here, with a well-defined orientation to that fault, somewhat parallel to this major fault which has already been discussed.

Q. Is that geologically consistent with what you would expect to find in this area?

A. Yes, it is.

In addition to the localized area, I also have done a considerable amount of regional work in the area which indicates the presence of this fault continued to the north off the localized mapped area.

Q. Let's go to Exhibit No. 6 now, Mr. Tate, and describe for us the structural relationship demonstrated on that structural cross-section as you pick up other wells moving from east to west through this area.

A. Okay. The first two wells on the eastern portion of this cross-section again represent wells which have been completed in both the Upper and in the Lower Morrow reservoirs of Rock Tank. The fourth well, being represented by a gas symbol, the Atlantic Richfield Company, WG Federal Comm #1 Well, located in Section 13 of Township 23 South, Range 24 East, is the well which was noted earlier as being the low proven

gas well within the Rock Tank Field at a subsea depth of minus 6,356.

This exhibit clearly illustrates a very significant point, and that is the third well on the cross-section, which is just updip of the low proving gas well, the Mewbourne Oil Company Federal "K" No. 1 Well, also located in Section 13 here on the index map, just slightly updip at a subsea depth of a minus 6,279, was drilled in 1985 and abandoned in January of 1986.

What's significant about this well is that it encountered a very thick section of the Lower Morrow Sandstone Reservoir. However, a drill stem test in 1986 within this sand had the following results: It recovered 370 feet of heavily gas-cut mud. However, it had also encountered 630 feet of gas-cut water. Therefore, this well indicates the potential for the encroachment of water from gas-water contact just downdip of the low proving gas well.

Basically, what I'm saying is that the current gas-water contact as defined by the Mewbourne oil well is somewhere in the vicinity of the Mewbourne oil structural subsea depth of 6-279, which, again, is significantly updip of Section 20 acreage which is the issue of this case.

Q. Let me ask you, Mr. Tate, in terms of analyzing the structure whether or not there's any reasonable geologic probability that you can take this information and map the structure for the Rock Tank Morrow Pools such that you nose the structure in a way that the well in Section 5 then represents the northeastern limits of the structure, and you create a nosing effect that would project then Rock Tank Morrow down in to include Section 20 and yet be consistent with the data that you discovered in Section 13, as well as Section 5?

In summary, can you construct a structure map, in your opinion, that would put a structural nose feature in the Rock Tank Morrow that would be bounded on the south by 13 and on the north by Section 5?

A. An interpretation such as that across Section 20 would be very unrealistic. The points that help make me come to that conclusion are, first, the significant dry hole in Section 29 due south of Section 20, which had a subsea depth of minus 7,033. It wouldn't be geologically feasible to shove that many contours in and be able to still keep it, in order to keep the crest of the Rock Tank Field trending across Section 20, and yet still honor that data point.

In addition, it would still make you question the point that I made on Exhibit No. 6 here concerning the current gas-water contact, as clearly defined by the Mewbourne oil well.

Q. Let's go to the isoliths now and talk specifically about mapping the reservoir thickness, and if I could get somebody to help me take down those cross-sections, we'll go to your Exhibits 7 and 8, Mr. Tate.

HEARING EXAMINER: We'll go off the record at this point.

(Thereupon, a discussion was held off the record.)

HEARING EXAMINER: Let's go back on the record. Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

Q. Let me have you go to Exhibit No. 7 now Mr. Tate, and identify that display for us again.

A. Okay. Exhibit No. 7 again is a gross sandstone isolith map for the Lower Morrow Sandstone.

Q. Exhibit No. 8 is?

A. A gross sandstone isolith for the Upper Morrow Sandstone.

Q. When we're looking at potential Morrow zones or formations within this specific area, are

there any other prospective sands that we ought to be interested in?

A. There are other prospective sands but very marginally so. The production associated with these two sands accounts for 85 percent of the production in this area, truly, the significant sands to define the risks and the potential for Morrow gas opportunities in this area.

Q. When we look then at the two primary Morrow sands in this immediate area, give us some sense of the relationship in terms of potential between the Lower Morrow Sandstone and the Upper Morrow Sandstone.

A. Of significance?

Q. Sure. Which is going to have the greatest potential?

A. Oh, by far, the Lower Morrow Sandstone has the greatest potential. It accounts alone for 75 percent of the cumulative production in this area.

Q. Let's go then to Exhibit No. 7 and have you describe for us how you have mapped and interpreted the Lower Morrow Sandstone in this area generally, and then more specifically to Section 20.

A. Okay. I've interpreted the Lower Morrow Sandstone as a northwest-southeast, dip-oriented,

channel-fill system. This is based on several lines of evidence.

First off, in the localized area, the wells that have encountered the sandstone exhibit characteristics which strongly are indicative of a channel environment. The sands which have produced this well in the Lower Morrow have relatively sharp basal and upper contacts with the overlying and underlying shale units. In addition, the log signatures on the wells in the Lower Morrow Sand have a slightly fine upward characteristic log signature which is indicative also of a channel-fill environment.

In addition, in map view of this localized area, the Lower Morrow is present both to the northwest, across the Rock Tank area, to the downdip areas of both Baldridge Canyon, and continues off this map in a significant downdip direction. Sands which are present both updip and downdip in map view obviously indicate dip-oriented channel-fill systems.

Q. So for purposes of simply convenience in showing the display of the immediate area, you've eliminated the mapping of the Morrow as it goes to the north and west across the major fault?

A. Yes, I have.

Q. You could have, and you have, in fact, mapped beyond that area?

A. I have mapped beyond that area, but because this is a major geologic barrier to production and defines the Rock Tank Field, which is one of the important issues here, I have stopped the interpretation for this exhibit at this point.

Q. And, similarly, to the western boundary then, this channeling orientation that you see for mapping this Morrow sand continues as you have indicated on the display itself?

A. Most definitely.

Q. And you simply chose for convenience in order to generate the display as you have to stop the interpretation at that point?

A. Yes, I have.

Q. When we look then as to your geologic evidence as to orientation, you said you had a channel deposition for the Morrow?

A. Yes.

Q. And you said you had a northwest-southeast orientation to that channel?

A. Yes.

Q. Why isn't it north-south orientation or some other orientation?

A. That's based on the fact that channel environments typically run in a downdip direction.

Q. You mean typically in Eddy County. New Mexico, for the Morrow production, you see a northwest-southeast orientation?

A. Yes. And that's not only based on this localized area, but regional mapping which has included the majority of Eddy County.

Q. Do you see any site-specific geology for this particular area that would cause you to adjust this channel to a more north-south orientation than you have displayed?

A. Definitely not.

Q. Describe for us now the relative importance of the thickness in the Morrow sandstone as you've mapped it. What does that tell you as a geologist in terms of picking an orientation, as well as a well location in Section 20?

A. It tells me everything. There is no doubt that in picking a Morrow location, you must maximize sand thickness. Sand thickness or stratigraphic risk is always the highest risk in drilling for the Morrow formation. You don't hit the sands if you don't have a reservoir. If you've got it, go for the maximum amount of sand that you possibly can get.

Q. Let's examine now, having made the maps and reached your interpretation -- let's examine your conclusion about the best-fit development of Section 20 itself. What is the geologic criteria that you use to make a judgment about the orientation of the spacing units in Section 20?

A. Those criteria again include most significantly sandstone thickness.

Q. That's the first criteria? What else?

A. A second criteria would be relative structural position within the area, and that is, of course, relative to other wells.

Q. When we look at Section 20 on the structure Map No. 4, am I correct in understanding that we gain structural position by moving to the northwest corner, and we lose structural position by going to the southeast corner?

A. Yes.

Q. So based upon that criteria, there is some advantage gained by going to the northwest structurally?

A. Yes, there is.

Q. When we look at your isolith, Exhibit 7, you have just the opposite orientation in that the greatest thickness is in the northeast?

A. Yes, that is.

Q. With the area of the least thickness being in the southwest?

A Right.

Q. You, as a geologist, have a conflict to resolve in picking out the best orientation; right?

A. That's true.

Q. What did you do?

A. Went right for the sand thickness every time.

Q. Why?

A. Again, it goes back to maximizing sand thickness. That is very risky prospect. In fact, the closest well to the prospect in the north half of Section 29 encountered no sand whatsoever. Obviously, any way of getting as far away from a zero control point is obviously the choice, and, again, coming up as close as you can to a 30-foot contour interval is the appropriate choice for a first well.

Q. Do you as an exploration geologist see any alternative, acceptable way to map the current data to show thickness on this isolith other than as you have displayed it?

A. No, I do not. This is the best interpretation, I believe.

Q. What, in your opinion, is the best orientation then of the spacing units for Section 20 that maximizes the potential for success of drilling the first well?

A. The optimum orientation of a spacing unit in order to maximize the success for the first well is definitely a well located in the northeast one quarter in which the east half or stand-up proration unit is dedicated to that well.

Q. What do you accomplish in terms of the full development of Section 20 if you dedicate an east-half orientation with the first well in the northeast quarter? What does that give you an opportunity to do there?

A. That give you an opportunity to fully develop the section in the way the Morrow is conventionally developed throughout all southeast New Mexico. That's on 320-acre spacing.

Q. Have you, as an exploration geologist taken Section 20 and divided it into quarter sections so that we have a northeast-northwest. southeast-southwest, and have you valued then in your geologic terms what the relative merit is of each of those quarter sections?

A. Yes, I have.

Q. How have you done that?

A. I've done that by, again, dividing up Section 20 into the northeast, northwest, southwest and southeast quadrants and then planimetering the acre feet of total sandstone rock volume within each of the quarter sections, not only for the Lower Morrow Sand but also for the Upper Morrow Sand.

Q. Why did you want to do that, Mr. Tate?

A. I wanted to do that to quantify the potential that existed in the section and in order to come up with what would be the optimum orientation of the spacing units, and from there go to the optimum viable locations within those spacing units to again maximize drainage of the section.

Q. Let's look now, sir, at Exhibit No. 9. You have that in your hand, do you?

A. Yes, I do.

Q. Is that an exhibit that you prepared?

It should be included in the package of exhibits, Mr. Examiner.

HEARING EXAMINER: Very well.

Q. (BY MR. KELLAHIN) This represents your work product?

A. Yes, it does.

Q. Again, describe what you did in order to

get these values.

A. I planimetered the sand maps, both the Lower and the Upper Morrow Sand maps, in order to come up with an acre foot value representing the gross sandstone volume associated with each of the quarter sections within Section 20.

Q. Let's take a moment now when you talk about gross sandstone volume and have you identify for us the difference then between this isolith that you've taken those volumes from and a conventional isopach.

A. A conventional isopach basically is just a thickness map. It represents a thickness from one point. from one stratigraphic point to another, regardless of the lithology.

Q. What is the isolith then?

A. An isolith map. obviously, "lithology." it means that we're going for sandstone. Obviously, sandstone is the reservoir here. I'm eliminating any shale that might be interbedded within the sands because they do not contribute to production; so this represents the potential reservoir volume, on a gross sense.

Q. Based upon your analysis then of the gross sand volume in each of the quarter sections, what did you find in examining that volume for the northeast

quarter?

A. I found that the northeast one quarter far exceeded those of any other -- or the acre foot value far exceeded that of any of the other quarter sections. The total Morrow gross sandstone volume in acre feet for the northeast one-quarter is 5,896 acre feet.

Q. And for the northwest quarter?

A. It calculated to be 3,497 acre feet.

Q. And then the southwest?

A. The southwest, the lowest of the four, came out to 1,557 acre feet.

Q. Having valued then the various quarter sections, using the gross sandstone volumes in each quarter section, how did you integrate then the structure in order to make a choice about the orientation of the spacing unit that would let you take the maximum advantage of the reservoir thickness and yet not compromise yourself on the structure? What did you do?

A. First, I selected the most optimum first location.

Q. And that would be the northeast quarter?

A. That's right.

Q. Describe for us where that puts you

structurally.

A. That puts you structurally at subsea depth of approximately 6,950.

Q. Where does that put you in terms of thickness on the reservoir thickness map?

A. In the Lower Morrow Sandstone, it puts you at a thickness of around 29, close to 30 feet of sand. In the Upper Morrow, it clearly represents the thickest portion of the Upper Morrow channel and would be in the order of 12-to-15 feet of sand, I believe.

Q. When you look at the S1 dot on your displays, what is that, Mr. Tate?

A. The S1 dot is the proposed location of Santa Fe.

Q. When we compare the Santa Fe proposed location to the Exxon proposed location -- look at the structure map -- is there a significance to you in the structural relationship, one to the other?

A. No, there is not. They are somewhat comparable with the Santa Fe location, possibly 20 feet higher, maybe 30 feet higher than the Exxon location.

Q. What is the relationship of the two well locations on the thickness map, Exhibit 7?

A. That's where it's very significant. The

Santa Fe location will encounter between 10 and 15 feet of sand. while the Exxon location will encounter close to 30 feet of sand.

That's very critical when you compare that to the producing wells in the Rock Tank Field area, especially because, as you can see. there are no producing wells in thinner sands than 20 feet in this portion of the area.

Q. Is there any doubt in your mind as a geologist that you're willing to give up a few feet of structure in order to gain reservoir thickness?

A. On the first well, it's critical; it's critical.

Q. To gain thickness over structure?

A. To gain thickness over structure.

Q. When we look then at the second well for the development of the section, your E2 location?

A. Yes.

Q. Describe for us the relative merits of that location in terms of structure and thickness.

A. Structurally, the Exxon location is slightly higher than the Santa Fe location, which, as a second well, possibly could be significant. However, we don't have the data to tell that, obviously, right now, on any kind of gas-water

content.

Stratigraphically, we're looking at a comparable thickness in both the Lower Morrow at approximately 12 feet of sand, maybe 15 feet of sand, and in the Upper Morrow. Expected to encounter around 10 feet of sand in both locations.

Q. When we look at your thickness summary. Exhibit No. 7, you look at the southeast quarter, that's got 3,754 feet of value in the total Morrow?

A. That's true.

Q. Where is that on your structure map?

A. That's at the structurally lowest point within the section.

Q. Why would you not place the orientation of the spacing units so that you would have a north half-south half and put your wells in the northeast and then in the southeast quarter?

A. Clearly because of the advantage that structure will give you for a northwest one-quarter versus a southeast one-quarter. It's significantly downdip, on the order of 100, maybe up to 200 feet. At this time again, we don't know how significant that is, but that obviously presents another risk of the prospect.

Q. Am I correct in understanding then by the

time you've moved down to the southeast quarter of the section, that structural displacement between the northwest is critical enough then that you have to give up some of the thickness in order to have any potential for the second gas well?

A. I believe it could be, and I believe that what we need to consider here is a plan that not only develops an east half but a west half and optimizes the drainage and reduces the risk in order to come up with successful wells.

Q. In your opinion as a geologist, Mr. Tate, if the Division Examiner approves Santa Fe's request for a north-half orientation and accepts their well location, what would happen to the south half of the section?

A. I don't believe the well would ever be drilled. I believe Santa Fe's location would result in limiting the developments in Section 20 to only a single well.

Q. Do you find sufficient reservoir volume within the section that it should geologically support two wells?

A. Yes, I do.

Q. Do you find that the productive limits within the Morrow are broad enough to include all of

Section 20?

A. At this time, I do.

Q. You don't see any evidence to exclude any portion of Section 20 as potentially nonproductive or noncontributive?

A. At this time, I don't.

Q. In picking the optimum location within the east half of Section 20, let's talk about your location. You have a requested location that you initially had asked was 660 out of the corner, the north and east corner of Section 20?

A. That's true.

Q. Based upon geology, what did you find at that location?

A. A location of 660 feet from the north line, 660 feet from the east line within Section 20 did one thing -- well, it was a geologically favorable position. It was the best geological position for the first drilled well as it would encounter greater than 30 feet of sand in the Lower Morrow and again be within the thicker portions of the Upper Morrow channel. Therefore, that was the optimum geologic location, initially.

Q. When you look at the amended location, which is 1,500 feet from the north line and 1,100 feet

from the east line, what does that tell you in terms of locating the well?

Let me explain myself. A standard location would be 1,980 from the "N" line, from the north line and no closer than 660 to the side lines?

A. Right.

Q. That would be the closest standard location?

A. Yes.

Q. Your location is still unorthodox, isn't it?

A. Yes, it is.

Q. What is the difference to you in having an unorthodox location approved over the closest standard location in the east half?

A. There's no difference.

Q. The structural position then of a well at a standard location is comparable to your requested location?

A. Would you repeat the question?

Q. Yes, sir. When we look at the closest standard location in the east half, it's going to be 480 feet farther south?

A. Right.

Q. You're going to lose a little bit of

structure, perhaps?

A. And sand thickness. Therefore- yes, a standard location in the east half of Section 20 would be least favorable geologically, obviously not the optimum location for a drill well.

Q. And that's because you've lost thickness and some structure?

A. Exactly.

Q. When we look at your proposed E1 and E2, the relationship of that well to well, what kind of well spacing does that give you in terms of potential development of the section?

A. The relationship of E1 and E2?

Q. Yes, sir.

A. I believe gives you optimum distance for the development of Section 20. The distance between E1 and E2 is approximately 2,600 feet. I believe that provides for adequate difference or separation between the wells in order to, hopefully, not result in a competitive kind of situation.

Q. "Competitive," meaning you've got two wells too close to each other?

A. That are basically draining each other. pressure depleting each other. not the most sufficient alignment of the wells to optimize drainage of the

section. I believe the locations here will clearly optimize the drainage within the section.

Q. Does Exxon have any objection as the working interest owner in Section 17 to a well located at the unorthodox well location?

A. No, they do not.

Q. Have vou received any objection, to your knowledge, from any of the other offsetting operators to a well location at an unorthodox location in the east half?

A. No, I have not.

Q. In fact, no one has objected. to your knowledge. to the extreme request of 660 out of the corner, did they?

A. No.

Q. When we look at the north half of Section 20, if that is deemed by the examiner to be the appropriate spacing unit, would you still recommend that the well be located as you have proposed?

A. Yes, I would

Q. Why?

A. Because it's the geologically best place to drill a well.

Q. The difficulty with that, though- is that it precludes the second well from being at the

geologically best location in the section?

A. Exactly. In fact, it makes the likelihood of a second well in the south half very unlikely.

MR. KELLAHIN: That includes my examination of Mr. Tate, Mr. Stogner. We would move the introduction of his Exhibits 3 through 8.

HEARING EXAMINER: I believe 3 through 9.

MR. KELLAHIN: I'm sorry, 3 through 9.

HEARING EXAMINER: Are there any objections?

MR. PADILLA: No, sir.

HEARING EXAMINER: Exhibits 3 through 9 will be admitted into evidence.

Mr. Padilla, your witness.

CROSS-EXAMINATION

BY MR. PADILLA:

Q. Mr. Tate, what control did you have for your 30-foot contour as shown on Exhibit No. 7?

A. The control for my interpretation on this map --

Q. Yes, sir.

A. -- is clearly displayed on this map However, in addition, I have, in fact, worked a much larger area in a regional sense throughout the entire area surrounding this location.

Q. Mr. Tate, what specific well control do you have for that 30-foot contour interval that you've shown?

A. Control includes 32 feet here, 38 feet here, 40 feet there, 41 feet there, thinner sands in here. Obviously, there's a thick developed here. I have thicker control up in here and off the map. It more or less goes along with the type of interpretation you would expect in a channel-fill environment.

I've controlled downdip, significantly downdip, with sands encountered which allow me to geologically interpret a sand body deposited within a channel-fill system such as this.

Channel-fill environments typically are very long, linear-type systems with sands deposited. Obviously, we have control for the thickness in here that, however, are very gradational in an updip and downdip direction as to the thinning of those sands but very sharp, typically, on the edges or on the strike side, on the strike position of that channel environment.

Q. What kind of throw does a big fault or the fault you've shown on the left have?

A. This fault here has a magnitude of --

HEARING EXAMINER: Excuse me, Mr. Padilla.

Mr. Tate, up until now your testimony has been real clear and everything. Now you're saying words "here" and pointing and stuff. That's not going to come out on the transcripts. and, believe me, that's going to be important. If you will, when you're referring to your map say which map it is, and try and be a little more clear about which wells you're talking about.

I'm sorry. Mr. Tate, please.

Q. (BY MR. PADILLA) The first fault, the fault on the left or the upper fault, or what's called the "big fault," on Exhibit No 7. you said that there's a throw of approximately 500 feet?

A. Um-hm.

Q. And you're also telling us that you can correlate to wells or some other data that you have northwest of that fault as shown on that Exhibit 7. That correlates with your 30-foot contour line as shown running through Section 20?

A. Could you repeat the question?

Q. Can you correlate this other data that you have mentioned that exists but is not shown on that Exhibit No. 7 with the 30-foot contour line as shown running through Section 20?

A. I most definitely can correlate the data. I have constructed an extensive grid of cross-sections. carefully stratigraphically correlated them.

Q. You don't have those cross-sections here, do you?

A. No, I do not.

Q. From what pools -- what pools exist up in the northwest?

A. There are no pools in the sands encountered in these wells. The correlation of the sands in these wells clearly are the same sands as that are across the fault.

Q. Are those dry holes up there?

A. Yes, they are

Q. Are they dry holes like the Moncrief well in Section 29?

A. They are dry holes. However, the major significant difference is that these wells encountered very significant thicknesses of sand in the Lower Morrow, while the well in Section 29 encountered absolutely no sand at all in this Lower Morrow reservoir section.

Q. What does the channel environment mean? When you say "channel environment," what does that

mean?

A. Channel environment to me means a river system, a system which is transporting and depositing sand from some source area, some sandstone clastic source area, which in this case happens to be the Pedernal uplift to the northwest.

You transport those sands during uplift and erosion of the Pedernal uplift. You transport the clastic material and deposit that within channel systems.

Q. Are those sands continuous in nature?

A. It's a river system. Excuse me?

Q. Are they continuous in nature?

A. Yes, they can be very continuous in nature.

Q. How extensive do sands in this area extend?

A. I've seen sands extend for five, ten miles in length within a system.

Q. How wide are those systems?

A. Generally speaking, these systems are on the order of a mile, sometimes a mile-and-a-half, maybe even two miles.

In this particular case, we have two channel systems which more or less have coalesced to form a very thick sand, very optimum condition, especially when you drape across such a prominent

structurally feature at Rock Tank; obviously why Rock Tank is such a very significant field.

Q. Is it fair to say that the Morrow formation is oftentimes hard to encounter in the channel environment?

A. Could you repeat the question?

Q. Is it fair to say that the Morrow formation in this area is hard to encounter because of the channel environment?

A. Channel environments definitely have extreme stratigraphic risk. And, therefore, going back to the reason why sandstone thickness is obviously the highest criteria on the list in selecting a location. There's no doubt that this is a very risky location.

Q. Mr. Tate, in your presentation here, are you trying to establish a new pool, a new Morrow pool southeast of your second fault line?

A. Are you talking about this fault here?

Q. Yes, sir.

A. In my testimony today, I am definitely illustrating separation that exists between Rock Tank and the acreage in question.

The Morrow, as far as whether or not it's dedicated to the other regulatory, the Morrow fields

in the area or not. it might be a decision based on drilling of the well. Based on my data right now. based on the closest well, being a dry hole, which was drilled as a Morrow well and permitted as a wildcat, my recommendation at this time would be that it is a wildcat, and it should not be dedicated to any field in the vicinity.

However, if geologic evidence suggests after the well is drilled that it might exist -- that it might be best put for convenience sake maybe in the Baldridge Canyon-Morrow Field or the Dark Canyon Penn Field. then that is another issue.

But my main point here is that there is no doubt that Section 20 is not a part of Rock Tank. There is no production within Section 20. There is not geologic separation from updip wet wells.

Q. But you can make the correlation across the whole area saying that this is the same Morrow channel; is that what you're saying?

A. Yes, I can.

Q. Why wouldn't the spacing then be the same for Section 20 as you have between the two folds?

A. Could you repeat the question again?

Q. My question is, if you can correlate across this whole area the way you say you can, why wouldn't

you have the same kind of spacing in Section 20 as you would between the two faults just immediately northwest of Section 20?

A. Is your question why wouldn't we develop Section 20 similar to Rock Tank if they are producing from the same sands?

Q. Yes, sir.

A. Well, there are several points. First off, the major producing sand at Baldridge Canyon also happens to be the sand at Lower Morrow Sandstone.

Q. How far from Section 20 is the Baldridge Canyon Morrow?

A. It's approximately two miles.

Another point that I would like to make, it's approximately a mile from the Dark Canyon Penn Field- a very minor field in the area, and approximately two-and-a-half miles from Baldridge Canyon Field.

But to completely answer your question, another point that was brought out in the testimony earlier is the very prominent structural development associated with Rock Tank. very prominent anticlinal feaure, a very prominent fault; a situation that I don't see anywhere else on this map- and, typically, you don't see this type of trap in the majority of

Eddy County.

This is obviously an optimum condition, a very prominent anticline where you can expect possibly better drainage. To go along with that, though, it's not feasible to include this in a Rock Tank Field when there's geologic separation from that, and there is geologic separation from that.

Q. Mr. Tate, on Exhibit No. 4, your contour lines match pretty well on the east side of the second fault with the contour lines west of that line.

I don't see that similarity between the lands on the west of the big fault and east of the big fault. You have stopped your contour lines at the big fault, but you don't do the same as you progress east beyond the small -- the fault on the right.

Can you explain why you follow that pattern and still say there's geologic separation in terms of spacing?

A. You've totally lost me, sir. I'm sorry. You'll have to repeat the question in a way that I can understand.

Q. Let me ask the question, why didn't you show structure on Exhibit 4 west of the big fault?

A. Because it's not significant in defining the boundaries or limits of the fields which are

associated with the acreage in question, and they are not really relevant to the case because there are no producing wells up here. This is a definite major boundary, geologic barrier. There are no producing wells in the northwestern portion of the structure map across this major fault, and, therefore. I elected to stop there.

Q. Mr. Tate, you just explained to me that you have done a lot of regional work out here. and it's all significant, but you somehow stop at the big fault there, and I am a little confused --

A. Why I stop there?

Q. At why you stop there?

A. Again, sir, it gets back to the point that it's not relevant to the case as is the area east, north, south, or west. I could have come in here with a large map of my regional interpretation, but it's proprietary information, and it's not really an issue when addressing the significant issues that Section 20 warrants.

Q. Does Exxon own any lands to the south in the Baldridge Canyon Morrow?

A. No, we do not.

Q. How about in the Dark Canyon Penn?

A. No, we do not.

Q. So nothing there is proprietary?

A. That's correct.

Q. How about east of your exhibits? Do you have any proprietary information that would be contained that Exxon has that would be shown east of the exhibits that might be relevant as far as channel environment is concerned?

MR. KELLAHIN: I'm going to object to the nature of the question. He's asked this witness if it's relevant. The man has explained how he's prepared it. He's explained it at length. I'm sorry if Mr. Padilla doesn't like how we presented our case, but I don't think his question is appropriate. I'm going to object.

MR. PADILLA: Mr. Examiner, he testified about other regional data that they haven't presented here, and I think Mr. Tate opened the door to that.

THE WITNESS: I will offer an answer.

MR. KELLAHIN: No. We can recess and bring him a Lea County geologic map of the entire area, if that what's he wants, or Eddy County, where we are, but we think we've provided you all the relevant geology that's necessary to make a decision, and if he's got something else to show, let him put it on in his case.

Q. (BY MR. PADILLA) Well. Mr. Examiner, let me ask Mr. Tate. did you evaluate the working interest in the proposal made by Siete?

A. Yes, I did.

Q. What kind of geology did you --

A. It hasn't changed a bit.

Q. Did you consider that a risky prospect?

A. Oh, I most definitely did. I also considered Exxon acreage as being geologically favorable to that which Siete was offering.

Q. Did you propose to do some seismic work?

A. It's definitely in the plans. We've got several opportunities, and we obviously had to take them in order of importance.

Q. Do you know when that's planned for?

A. No, I do not. I will be recommending seismic though on this acreage. Again. we are just into the second year of the primary term, and we have every intention of being prudent operators in developing the acreage in this area.

Q. Let me finish up, Mr. Tate. Are you proposing a new pool or just an exemption from existing pool rules?

MR. KELLAHIN: Mr. Examiner, we have advertised our case to have this section deleted from

the Special Rules of the Rock Tank Morrow. I don't know how else to do it. We've not asked for the creation of a new pool because there's no well in the section, and that's also been a predicate for establishing the rule.

The way it's advertised is to separate Section 20 out of the Rock Tank, and we think that's geologically viable and within the choice of what you can do in this hearing. To ask Mr. Tate that question I think begs the decision of the examiner. He's already told you he thinks it's geologically separated. I don't know what else the man can tell you.

HEARING EXAMINER: I concur with Mr. Kellahin in this case, Mr. Padilla.

Q. (BY MR. PADILLA) Mr. Tate, does your geology show a new pool for Section 20 in the Morrow formation?

A. Is that not the question that was just asked?

MR. KELLAHIN: Same question, same objection.

HEARING EXAMINER: Mr. Padilla, do you want to move on, please.

MR. PADILLA: Well, Mr. Examiner, I don't

think it's the same question, but I'll go ahead and pass the witness at this time.

HEARING EXAMINER: Mr. Tate, why don't you take a seat?

THE WITNESS: Thank you.

HEARING EXAMINER: At the foot of this table. Yes.

CROSS-EXAMINATION

BY HEARING EXAMINER:

Q. In the preparation of your maps 4. 7. and 8, was there other geological tools or information available other than the well data used to make these maps, such as seismic?

A. No, there was not.

Q. No seismic work?

A. It was solely well data, yes.

Q. Back to the east of this area, what is the closest Morrow production?

A. I know that there are no -- I know there are no Morrow producing wells within at least a couple miles east of this area.

As far as what's the closest production, it's probably on the order of three to four miles. I know you go about six miles to the east, and you start to get into the South Carlsbad Morrow Field, and

that's obviously a very major field. That's the closest really significant production in the Morrow.

Q. And that's six to seven miles, you say?

A. Yes, at least - maybe six to ten miles.

Q. Geologically speaking, as you go to the south and east of the Rock Tank - and you pass the middle fault on your maps --

A. Right.

Q. Are there any geological differences between the sands. between the formation, what we see in both Upper and Lower Morrow -- are there any geological differences between those deposits to the north and west and to the south and east of the area which we're talking about today?

A. I don't believe so.

HEARING EXAMINER: Are there any other questions of Mr. Tate?

MR. KELLAHIN: Let me follow up on a couple of ideas, Mr. Stogner.

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q. When we look at the stratigraphy of the Morrow prior to the faulting that's occurred, and we're looking for regional developments of the Morrow channel, you're able to follow those channels in some

aerial extent for a number of miles in some instances; is that true?

A. Yes.

Q. And the channels then will have some limitation in width. Then they look very much like small streams or rivers?

A. Exactly.

Q. And that's how they were deposited?

A. Right.

Q. Over the course of geologic time then, other events have occurred to the earth - and in certain instances we have the displacement of that river bed where you have faulting occurring?

A. Exactly.

Q. And while you have stratigraphically the ability to map over great distances this Morrow channel, you'll find that the production from pool to pool within the Morrow has been otherwise affected by geologic event?

A. Every time.

Q. When we look at the western boundary of the Rock Tank Morrow, we see that geologic event to be a major fault; is that true?

A. Yes, that's true.

Q. And while you can continue to map to the

east that Morrow channel from Rock Tank in through Section 20 - there are other things that have occurred in terms of that reservoir, are there not?

A. Yes.

Q. And one of the things that has occurred is that in drilling of two of those wells, we find that in the structural relationship of those producing wells in Rock Tank to Section 20, you encounter water?

A. Yes, exactly.

Q. And it's going to be physically impossible to have the Rock Tank Morrow gas produced at a point that is east of that water?

A. Yes.

Q. You have a physical separation of the hydrocarbons by some other fluid, do you not?

A. You have to have it.

Q. So if geologically Section 20 is connected to Rock Tank, physically, there are going to be no hydrocarbons there because it's going to be wet, in your opinion?

A. Yes, that's true.

Q. So if we are to establish an area that contains as a single pool the same single, common source of reservoir supply for that production, there is no doubt in your mind as a geologist that the

eastern limits of Rock Tank Morrow cannot extend into Section 20?

A. No doubt whatsoever.

MR. KELLAHIN: No further questions.

HEARING EXAMINER: Thank you, Mr. Kellahin.

RECROSS-EXAMINATION

BY HEARING EXAMINER:

Q. Let's look at the Baldridge Canyon Morrow. Are you familiar with the horizontal and extension of that particular pool. Mr. Tate?

A. Yes, I am.

Q. Does it follow pretty much to what you show on Exhibit No. 3?

A. As to the limits of the field?

Q. Yes. I see the dotted line around that --

A. Yes, that defines the Baldridge Canyon Morrow field.

Q. Is there a fault that runs through that particular pool?

A. Yes, the one fault in question does run through there. the one in the middle.

Q. And this fault is the same one that is separating the Rock Tank from Section 20; is that correct?

A. That's correct.

HEARING EXAMINER: Are there any other questions of Mr. Tate?

MR. KELLAHIN: No. sir.

HEARING EXAMINER: Mr. Padilla?

RECROSS-EXAMINATION

BY MR. PADILLA:

Q. Did you have a cross-section, Mr. Tate, that shows that that fault runs through the Baldridge Canyon Morrow?

A. Not available today, I do not, but I have constructed extensive grids of cross-sections throughout the entire area, yes.

Q. It's your testimony that it runs as you show it?

A. Yes, that is true.

Q. What is the throw of that fault? I don't think I asked you that.

A. I believe I mentioned, yes, it was on the order of 75 to 100 feet.

MR. PADILLA: That's all I are.

HEARING EXAMINER: I'm sorry. 107 --

THE WITNESS: 75 to 100 feet. And, again, that offset is illustrated in these cross-sections too, clearly illustrating the separation.

HEARING EXAMINER: Are there any other questions of Mr. Tate?

MR. KELLAHIN: No, sir. If not, he may be excused. Mr. Kellahin?

(Thereupon, a recess was taken.)

HEARING EXAMINER: This hearing will come to order. Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Stogner.

JOE HILL,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Hill, for the record, will you please state your name and occupation.

A. My name is Joe Hill, and I'm a technical foreman, construction, with Exxon in Midland.

Q. Specifically what do you do for your company, Mr. Hill?

A. My job is to basically find, lay out, and bid and supervise construction of drilling locations and the roads that approach those and then the subsequent reclamation of those locations after the well is drilled.

Q. During the course of performing your

various duties for your company. do you have on occasion the opportunity to go out and field inspect possible locations the geologist has given you to determine that they are topographically suitable so that the surface has sufficient size for a well location, and that you have access into that well location and can do the various operations on the surface for the drilling and production of that well?

A. It's a very basic step in what we do, yes.

Q. How long have you been doing that?

A. I've been with Exxon doing this particular job since January of 1982.

Q. And pursuant to that employment and consistent with your duties, did you make such an inspection of Section 20 with regards to looking at potential well sites in that section for a Morrow gas well?

A. Yes, I did.

MR. KELLAHIN: We deny tender Mr. Hill as an expert witness.

HEARING EXAMINER: Are there any objections?

MR. PADILLA: No objections.

HEARING EXAMINER: Mr. Hill is so qualified.

Q. (BY MR. KELLAHIN) Mr. Hill, let's look at Exxon Exhibit No. 10. Would you take a moment and identify and describe this display?

A. This is a reproduction of a USGS topographic map. Carnero Peak Quadrangle. The scale is 1 inch to 2,000.

Q. Is this the type of map that you use that shows the topography of areas such as the one in question, Section 20. and Eddy County. New Mexico, by which you then examine the surface in conjunction with these topographical maps and pick well locations?

A. That's correct.

Q. Have you found this map to be useful and accurate in determining well locations in Section 20?

A. That's correct. When I went out there on the ground, I was able to locate all the prominent topographic features. Everything fit exactly as the way it is on the ground.

Q. Within the context of this map then as Section 20 is outlined on your copy. to the best of your knowledge, the contouring and the information shown about the surface are reasonable and accurate?

A. That's correct.

Q. Let's look specifically at a couple of points. Mr. Hill. Your display shows three possible

well locations, one in the northeast quarter identified as E1, another one in the northwest, E2. and just to the south and east of E2 is the S1. What do each of those represent?

A. E1 is a proposed Exxon location. E2 is also a proposed Exxon location. And S1 is a proposed Santa Fe location.

Q. When we look at the E1 location. is that the location that you've examined that is proposed to be 1,500 feet from the north line and 1,100 feet from the east line of that section?

A. That's correct. The exact placement is very difficult to do without a survey, but that is, based on this topographic map. approximately where the location would fall.

Q. In terms of the magnitude of potential error without a survey. can you still accurately locate the well as I've described for you using those footages?

A. Right, this is accurate.

Q. The topography is not so restrictive that a few hundred feet one way or another within this topography is going to make that difference?

A. It should not. no.

Q. When we look at the E1 location. do you

find that to be a suitable location at which you can construct the necessary facilities on the surface for the drilling and production of the well?

A. Yes, it is.

Q. What do you use for access?

A. There is an existing, two-track road that comes in from the south, and we would probably bring that road in along that two-track, improving it in certain areas. It's very steep in certain areas and it definitely needs improvement. It's a very rough road.

Q. When you compare the merits of building a surface location and the access for the E1 location, how does it compare to the S1 location that Santa Fe has proposed?

A. Basically, the factor that you have here for building the locations is the amount of cut and fill or leveling that has to go on on the location. You can determine this from the map by looking at the width of the topographical contours. And basically they are the same. The amount of change in elevation is very similar; so that the difference in cut and fill on these three sites is negligible.

Q. If I asked you to rank in order of preference in terms of surface use now the three

locations, how would you rate them?

A. I think, from my investigation, the E1 location would be probably the easiest. S1 and E2 are essentially the same. They are no difference.

Q. Are E2 and S1 both buildable locations?

A. Yes, they shouldn't be a problem.

MR. KELLAHIN: That concludes any examination of Mr. Hill. We would move the introduction of Exhibit No. 10.

HEARING EXAMINER: Are there any objections?

MR. PADILLA: No, sir.

HEARING EXAMINER: Exhibit No. 10 is admitted into evidence.

Mr. Padilla, your witness.

CROSS-EXAMINATION

BY MR. PADILLA:

Q. Mr. Hill, can you on my exhibit show me where the original location at 660 from the east and northwest?

A. I could pencil that on there for you It shouldn't be a problem (indicated).

HEARING EXAMINER: Mr. Padilla, can you describe roughly where that point that he just put on your exhibit is?

MR. PADILLA: Yes, sir. I'll lend you my exhibit. It's a pencil mark.

HEARING EXAMINER: The pencil mark appears to be in the upper northeast quarter of this particular section, and it appears to be -- how would you describe that, Mr. Hill?

THE WITNESS: The easiest way to describe it for the purpose of the record would be, it's approximately seven-tenths of an inch from the north line, seven-tenths from the east. It's on a prominent feature, prominent topographic feature.

HEARING EXAMINER: It looks like a point sticking out.

THE WITNESS: It is a point, yes.

HEARING EXAMINER: That's what I was trying to get at, seven-tenths from a point Okay.

Q. (BY MR. PADILLA) Mr. Hill, when did you go out there and do your surface inspection?

A. It was Monday the 20th of November.

Q. That was last week or --

A. Excuse me. What's this last Monday? 28th, 27th, whatever last Monday was.

Q. Three days ago?

A. That's correct, the 27th.

Q. As a result of your inspection, did you

then recommend that the change of surface locations be changed?

A. Yes.

Q. The E1 location shown on your Exhibit No. 10, is that at the bottom of the canyon, or what is it? Can you describe the surface at the E1 location?

A. The topographic map shows a dashed line, which is the base or the flowline of the creek channel through that area. The topographic contour lines represented are 20-foot contours. Okay?

The well bore stake that we have there is going to be approximately 15 to 20 feet above the flowline of that creek. Some of the reasons I chose that particular site are that you have an existing two-track road that apparently is usable year round

Also, there is a windmill to the northwest approximately even with the center and the north line of Section 20 that is below this particular contour and appears to stay in operation. I mean the landowner doesn't lose his windmill; so it looks like a usable location. It's as reasonable a contour -- it's as reasonable as any other contour in this section. In other words, there's nothing extreme.

Q. Mr. Hill, is there any permanent water running to this creek?

A. The only thing I was able to see was there was a small pool off to the northwest that was holding just a few barrels of water. It was a eddied-out pool in the creek channel that held a little water, but, no, it's obviously a drainage creek. It moves water during periods of heavy rainfall, but it's not continuous.

Q. Do you have any information as to how high the water rises in this creek when you have a heavy rainfall?

A. I do not. The only thing I could base my opinion on was the existence of the two-track road adjacent to the location and also the existence of a windmill at that same general elevation down in the area.

Q. Mr. Hill, in accessing this location, you testified that, I guess you come in from the south. you go north, and you follow the road as it snakes down into the bottom of the canyon?

A. Um-hm.

Q. What kind of repair work would you have to do to that road to get down into the bottom of the canyon?

A. Essentially, widen the subgrade of the road and surface the road with a usable material, gravel or

caliche. but the basic path of the road is acceptable. It's just you need to upgrade the road, I found, from the pavement all the way in.

Q. Are there some large boulders at the bottom of that canyon?

A. Not adjacent to the road.

Q. Are there any large boulders in gaining access to the location that you had to remove and clear?

A. Not that I know of. Like I say, you would have to widen the subgrade, but you would have to do that all the way in to the location. You would have to smooth the level of the subgrade of the road and haul in a surfacing material to insure a smooth road surface.

Q. And it's your testimony that that location that you want would be less costly than the E2 or the S1 locations?

A. You would probably, in my opinion, save money in blasting. The ones on top of the hill, it's -- it appeared to me that you're going to have some money involved in blasting.

It looks as if this area down here, when I was there, was not going to take as much leveling. Thus, you wouldn't have as much cut and fill as you

would the ones on the top.

Q. How steep is the grade as you go down into the canyon? Is that pretty steep?

A. It's difficult to say. 10 percent, but that is not unusual for this particular area. You can see the topography in the locations and the roads that are on this map, and this road is very common. A 10 percent grade is not an unusual grade in this road.

Q. The location up in the northeast quarter that you had staked originally, was that changed because of topography?

A. Yes. There was some problems with it that just, topographically, it was not feasible.

Q. Mr. Hill, I have one final question: Did you happen to find the muffler of the Santa Fe Energy inspector's car?

A. I did not. It's a rough road, though.

MR. PADILLA: That's all I have, Mr. Stogner.

HEARING EXAMINER: Thank you, Mr. Padilla.

CROSS-EXAMINATION

BY HEARING EXAMINER:

Q. Mr. Hill, do you know if the surface of this section out here is under the jurisdiction of the Bureau of Land Management?

A. I do not.

Q. In your work with Exxon, is it part of your duties to attend a meeting or an inspection of the surface with a BLM representative on federal lands?

A. Yes. We do attend all site meetings where we address the surface use.

Q. That would be you that attends those?

A. Yes, we do -- I do, yes.

Q. That would be your function?

A. Yes.

Q. But you don't know if the surface in this particular area is federal?

A. I do not. I used the potential that that would be federal surface in my interpretation, and you would have an extreme cut and fill in the northeast 660 location, and for that reason, I made an assumption that were this BLM surface, they probably would not condone that particular location.

Q. In this particular area, and it appears on the first exhibit that Exxon does have some properties in this area, are there any Exxon wells within this Dark Canyon draw or a well in this area that you know of that is in a similar predicament as appearing to be in the base of this particular draw or drainage feature?

A. Not to my knowledge. I'm not aware of it.

HEARING EXAMINER: Are there any other questions of Mr. Hill?

MR. KELLAHIN: Just a couple, Mr. Stogner.

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q. In looking at the El location within this drainage feature, have you applied to it the federal standards as you know them for provable well site locations?

A. I'm not sure of those particular standards. What we look for is a location that is above flowline, that is a maintainable location, that minimizes cut and fill. And from all appearances, this is out of the actual drainage channel. That was my criteria was find a spot that is above the flowline and out of the actual drainage channel.

Q. And you've not yet had that meeting on the surface with BLM personnel with regards to this well location?

A. We have no well location proposed; and so this was just to inspect a proposed site and make a recommendation as to where I thought a location might be appropriate.

Q. Mr. Padilla asked you about the Exxon

original geologic pick, 660 out of the corner?

A. Yes.

Q. Let me ask you whether or not you examined the surface with regards to Santa Fe's original well location, which was 660 from the north line and 660 from the east line? Did you examine that?

A. Yes, I did.

Q. Was that a buildable location?

A. The initial stake, 660 from the north and 1,980 from the east, in my opinion, was not.

Q. Why not?

A. It was within about 50 to 60 feet of a bluff overlooking the creek channel, and it would require a fill section of the location be out actually in the creek channel.

There was an alternate stake placed -- I say an alternate. There was a reference stake placed that was identified as 100 feet south. And a location in that particular site is buildable, but it would have a greater cut-and-fill situation. There is more of a slope in that particular area.

MR. KELLAHIN: Thank you, Mr. Hill.

I have nothing else, Mr. Examiner.

HEARING EXAMINER: Are there any other questions of this witness? If not, he may be

excused.

Mr. Kellahin?

HEARING EXAMINER: I'd like to call Mr. Bill Duncan at this time, Mr. Examiner.

WILLIAM T. DUNCAN, JR.,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Duncan, would you state your name and occupation.

A. My name is William T. Duncan, Jr., and I'm an engineer employed by Exxon Corporation.

Q. Mr. Duncan, as an engineer for your company, have you testified on prior occasions before this Division?

A. Yes, I have.

Q. And have you done any engineering work with regards to the facts that are at issue before the examiners today in today's hearing?

A. Yes, I have.

Q. What specifically did you do?

A. I looked at the cumulative recoveries and the state of depletion of the wells shown on Exxon's Exhibit No. 3 and compared those to the actual

reservoir properties for the wells shown on that exhibit and calculated what I believe are reasonable drainage areas that we might see or that have been experienced by wells in those two fields, and it was an attempt to give us an idea of what to expect in Section 20.

Q. Have you also studied Mr. Tate's geologic interpretations and examined the engineering aspects of his geology with regards to Section 20?

A. Yes, I have.

MR. KELLAHIN: At this time, Mr. Examiner, we tender Mr. Duncan as an expert petroleum engineer.

HEARING EXAMINER: Are there any objections?

MR. PADILLA: I have none, Mr. Examiner.

HEARING EXAMINER: Mr. Duncan is so qualified.

Q. (BY MR. KELLAHIN) Mr. Duncan, one of the issues for the examiner to resolve is whether or not there is sufficient substantial evidence to remove Section 20 from the operations of the rules and procedures for the Rock Tank Morrow Upper and Lower Gas Pools which are based on 640-acre spacing. Have you examined the relative drainage areas in the various pools in this vicinity to come to any

conclusions as an engineer?

A. Yes, I have. Those comparisons are shown on Exhibit No. 11.

Q. As an engineer, having examined the information, made the engineering calculations, and having sat through all the testimony today, do you have an opinion as regards to what should be the appropriate spacing for Section 20?

A. Yes. I believe Section 20 would be most appropriately developed on 320-acre spacing, as would be the statewide rule for development of this depth well.

Q. Would you describe for us the method that you have gone about to analyze that question and how you have reached and supported your conclusion?

A. Yes, I would. I looked at -- first, I divided the fields. I used the three separate fields, and, for instance, on Exhibit No. 11, page 1, I've shown the Baldridge Canyon wells. And for those wells I went through and determined what the cumulative recoveries were for each of the wells in that field.

Q. Excuse me. Let's call them pools. They're designated as pools. So if you examine the area within the Rock Tank Pool, you're looking at both the Upper and Lower Morrow?

A. No. I looked at the Upper Morrow separate from the Lower Morrow because the Rock Tank Pool is a Rock Tank Upper Morrow Pool separate from a Rock Tank Lower Morrow Pool.

Q. Very good. All right, sir.

A. On page 1 of Exhibit No. 11, I've shown the Baldridge Canyon Morrow Pool wells. The wells are not listed. I went through and determined what the cumulative recovery was for each of the wells in that pool and determined that the wells are at or very close to abandonment pressure. So the cumulative recoveries for each of those wells is very close to the estimated ultimate recovery of the wells in that pool.

I averaged the recoveries, and I took the average porosity, thickness, and water saturations that were done by Mr. Tate and used those to determine the average drainage area for Baldridge Canyon Morrow wells.

Q. And what did you conclude?

A. That average area is approximately 305 acres.

Q. In your opinion, has the spacing of the Baldridge Canyon Morrow Pool on 320 acres been an appropriate spacing pattern for the development of

that pool?

A. Yes, I believe it has been.

Q. Describe for us what you did when you examined the Upper Morrow Rock Tank Morrow Pool.

A. For the Upper Morrow Rock Tank, I did the same thing. I averaged the cumulative recoveries, again found them at the same state of depletion, approximately at abandonment pressure, and many of the wells, of course, are already abandoned, but the ones that are still producing are at abandonment pressure, and took the average reservoir parameters, again done by Mr. Tate, and determined that the Upper Morrow is probably going to average about 297 acres per well in drainage.

I did the same thing on page 2 for the Rock Tank Lower Morrow wells and found that the Rock Tank Lower Morrow wells did average a significantly greater area of drainage, approximately 491 acres, but, again, one well would not effectively drain an entire 640-acre section.

Q. Where are we in the producing life of the Lower Morrow Rock Tank Pool?

A. About the same place. Most of these wells are either depleted, or they're approaching depletion.

Q. We have discussed at some length this

morning with Mr. Tate his geologic conclusions about the separation of Section 20 from the Rock Tank Morrow?

A. Yes.

Q. From an engineering aspect, can you describe for us those issues that you find of importance in separating Section 20 from the Rock Tank Morrow?

A. I believe that the Rock Tank Morrow Pool is more likely to have some kind of enhanced secondary porosity that is not as likely in Section 20. We don't have any evidence to show that, but I think that the greater drainage area that you see in the Rock Tank Lower Morrow wells is probably indicative of some enhanced secondary porosity. That's the main difference.

I believe Section 20 will be much more likely to be similar to the Baldridge Canyon Field.

Q. And as a physical probability of producing gas in Section 20, we're not likely to see gas produced out of that section if it's part of the Rock Tank Morrow Upper or Lower Gas Pool because of the structural relationship of that section to the pool?

A. That's correct. If Section 20 is in communication with the Rock Tank Upper Morrow and

Lower Morrow Pools, it will be wet.

Q. When we look at the Morrow producing reservoirs in southeastern New Mexico, and you look at the channel nature of those reservoirs, do you find that in certain instances those reservoirs can be physically separated yet still be part of the same geologic reservoir channel?

A. The sand that's deposited can be continuous, but there can be separations, no flow boundaries caused by secondary effects to that sand body.

Q. That would occur for lack of permeability between various portions of the same sand system?

A. Yes, it could.

Q. And you might find areas of that same sand system that would be separated, the hydrocarbons would be separated by water?

A. Yes.

Q. Would it surprise you to see that Section 20, if drilled and developed, might be separate and apart from any of the existing pools in the area?

A. No, that would not surprise me.

Q. Based upon your study of the Rock Tank Morrow Gas Pool and the Baldridge Pool, do you see any compelling reason or justification to initially space

the section on 640 gas spacing?

A. No, I do not.

Q. Do you believe any waste will occur or any correlative rights would be impaired if initial gas spacing in Section 20 was the statewide gas rule?

A. No, I do not.

Q. Let's talk about the development of Section 20 now. You said you have reviewed with Mr. Tate his geologic interpretations?

A. Yes.

Q. Based upon your engineering study, can you conclude that there is sufficient likelihood of sufficient reservoir gas that can be produced from that section to support two wells?

A. Yes, I do believe that.

Q. Do you, as an engineer, have a preference for how the wells are located and the spacing units are oriented with regards to those wells?

A. Yes. I believe, as I've testified, that Section 20 would not be adequately developed by one well, and that if one well were drilled in the north half and that the north half were the 320-acre spacing unit, it's highly unlikely that a second well will be drilled in the south half because of the structural ridge.

The south half does contain significant amounts of sandstone which are likely to contribute to production from wells in the field, and I believe those reserves would go undeveloped.

Q. Your proposal to develop the section using two stand-up spacing units, each with wells in the north half, one in the northeast quarter and one in the northwest quarter, is that in any way uncharacteristic or unconventional with regards to Morrow gas development?

A. I don't believe it's unconventional. The well locations do have to be optimized to gain sand thickness. I believe that it's common to move those locations to the point to capture the sand thickness and optimize the structural position.

Q. In order to optimize that position, the Exxon-proposed location is in fact at an unorthodox location, is it not?

A. That's correct.

Q. Exxon owns the working interest in Section 17?

A. That's correct.

Q. Do you have any objection to the well being at an unorthodox location in Section 20?

A. No, I do not.

MR. KELLAHIN: That concludes my examination of Mr. Duncan, Mr. Examiner.

We would move the introduction of his Exhibit No. 11.

HEARING EXAMINER: Thank you, Mr. Kellahin.

Mr. Padilla, your witness.

CROSS-EXAMINATION

BY MR. PADILLA:

Q. Mr. Duncan, on your Exhibit No. 11, with regard to page 1 with regard to the Baldridge Canyon Morrow Pool, would you agree with me that Mr. Tate has shown no connection between that pool and Section 20 in his geological presentation?

A. No, I would not agree.

Q. How is the Baldridge Canyon Morrow connected to Section 20?

A. By way of illustration, if you'd refer to his Exhibit No. 7, the Lower Morrow Sandstone is connected between Section 20 and the Baldridge Canyon Field. The Upper Morrow Sandstone shown on Exhibit No. 8 also shows connection in approximately the same path.

Q. Shouldn't then we be asking ourselves, shouldn't Section 20 be part of the Baldridge Canyon

Morrow Pool then?

A. We could ask ourselves that question.

Q. Did Exxon consider this a possibility?

A. I believe that the rules in the Baldridge Canyon Morrow are more appropriate for the development of Section 20, and there would be no adverse consequences to considering Section 20 in the Baldridge Canyon Morrow.

Q. But you've made no presentation of that sort today to include Section 20 in the Baldridge Canyon Morrow, have you?

A. There happens to be a field or a pool between Section 20 and Baldridge Canyon Morrow called the Dark Canyon Penn, and some of those wells are completed in Morrow sands. So there is some administrative question about whether the NM OCD would prefer to see it in the Baldridge Canyon Morrow.

Since Section 20 is two to three miles from the Baldridge Canyon Morrow Field, it seems most appropriate that it be developed as a wildcat. I see no problems with that.

Q. Let me direct your attention to page 2 of your exhibit. In regard to the Upper Morrow Rock Tank calculation and your conclusion that one well is draining 297 acres -- well, first of all, is that your

conclusion, that one well is only draining 297 acres?

A. No, it is not.

Q. What does 297 acres mean?

A. That is the average area drained by wells completed in the Rock Tank Upper Morrow Pool.

Q. Are there wells in that pool that are draining in excess of 297 acres?

A. Yes, there are. By my calculations, of the five wells in the pool, one well probably will drain in excess of 320 acres.

Q. Does this calculation indicate that you have a limited channel environment where these particular wells are completed, and your average, therefore, only shows a productive acreage?

A. The average reflects the reservoir properties that we've seen in each of the well bores. By averaging all of the well-bore properties of wells within that field, it should be a good statistical tool.

Q. But 297 acres is only an average?

A. 297 acres is an average.

Q. Do you know what the range of drainage is of the particular wells in the Upper Tank Morrow?

A. I have calculated for each well what the net range is, or I've calculated for each well what

the approximate drainage will be. I've chosen not to present it because that could make individual wells not quite as accurate as the entire picture.

I feel like 297 shows -- it's unlikely that the Rock Tank Upper Morrow is going to be effectively developed on the average by 640-acre spaced wells. I can refer to that range and give you those numbers.

The highest value calculated for the Rock Tank Upper Morrow wells is one well which would calculate out to be 901 acres that's drained. The large amount of uncertainty that I believe exists is, we've attempted to come up with a good porosity cutoff that we've used, about 6-1/2 percent, but it is possible that there is some contribution from porosity lower than 6-1/2 percent. Obviously, there's some porosity greater than 6-1/2 percent which may not be contributing. So the individual numbers are not quite as important, I believe, in the study of Section 20.

However, the range does go from 47 acres as a low to 901 acres. Two of the wells drained approximately -- I'll just give you all the numbers. There were five wells. One drained approximately 228 acres; one, approximately 178; one, 63; one, 901; one, 47.

And there was another well that showed

absolutely no porosity but yet produced half a billion cubic feet of gas; so it showed no porosity above our 6-1/2 percent cutoff. So, technically, it got that out of absolutely nothing, but when you look at the average, it still should be meaningful.

Q. On that last well you mentioned with no porosity, did you throw that out of your calculation because it had less than 6 percent porosity?

A. No, I did not. Obviously, there was some reservoir there.

Q. Is there a permeability factor that is included in your calculations?

A. There is always an effect caused by permeability, but permeability is not directly measurable on well logs; so it's not something that can be easily used to determine net pay. The common practice in reservoir engineering is to use porosity. Porosity and permeability are related. Therefore, you are implicitly using permeability.

Q. Do you know what kind of permeabilities you have in this Upper Morrow Pool?

A. No, I have not studied that.

Q. Let's go on down to the Lower Morrow calculation. Can you give me the range of calculations that you have calculated for the various

wells in that pool?

A. One well showed to be approximately 28 acres, and the highest well was 922 acres. The average was 491 acres. Of the eight wells in the pool, six would drain 320 acres effectively. Only three would drain 640 acres effectively.

Q. Would infill drilling be appropriate in those instances where you have found that one well is not effectively draining 640 acres?

A. I have not looked at that.

Q. Where you have situations or wells that are only draining 320 acres on an average, is that in and of itself creating waste?

A. I don't understand your question.

Q. Would the fact that one well is not draining the entire 640 acres and is only draining 320 acres, would that create reservoir waste because gas production or gas reserves are not being produced through that one well?

A. I don't think I understand your question because my answer wouldn't be favorable to you. Could you please restate it? I don't think you would ask that question, if I'm understanding it correctly.

Q. Let me ask the question a different way. Where your calculations show that wells are draining

less than 320 acres, there is still an opportunity to drill an additional well in that section, is there not?

A. There may or may not. You would have to look at the particular situation and evaluate it for infill production.

Q. What factors would you be looking at?

A. Reservoir homogeneity, which would give you an indication of whether there are sufficient reserves left to drill a second well.

Q. You're saying if there's sufficient reserves left as some kind of contingency; doesn't that indicate that the well is indeed draining more than 320 acres?

A. Some of the wells are draining more than 320 acres. Some are draining less. On the average, 320 acres would be the best development density for Section 20. 640 acres would not.

Q. Wouldn't the best way to develop the area then is to drill wells on the greater spacing and then evaluate as you develop the field as to whether or not infill drilling or smaller spacing is appropriate?

A. I believe that it's very, very unlikely that we would see 640-acre spacing, that that would be an appropriate spacing for Section 20 based upon what

I've done. It would be extremely conservative to the point of being wasteful. In addition, it would cause --

Q. Why would it be wasteful, Mr. Duncan?

A. There would be an inertial effect. If it were initially spaced on 640 acres, it's more likely it would remain on 640 acres, even if that were not the appropriate spacing.

I believe in this case statewide rules provide for the best way to develop this section.

Q. But you would agree that there are exceptions to 320 acres just like there is in the Rock Tank; isn't that correct?

A. Of course, I would.

MR. PADILLA: I think I have asked all the questions that I have.

HEARING EXAMINER: Thank you, Mr. Padilla. Mr. Kellahin, do you have any redirect?

MR. KELLAHIN: No, sir.

HEARING EXAMINER: Are there any questions of Mr. Duncan? If not, he may be excused.

MR. KELLAHIN: Mr. Stogner, I'd like to introduce our notice certificate for the hearing in which we've notified the offset operators with regards to our request, as well as notification of those

working interest owners within our proposed spacing unit. I've marked that as Exxon Exhibit No. 12.

That concludes our presentation with the introduction of Exhibit No. 12, Mr. Examiner.

HEARING EXAMINER: Are there any objections to Exhibit No. 12?

MR. PADILLA: No.

HEARING EXAMINER: Exhibit No. 12 will be admitted into evidence. I believe that concludes your testimony, Mr. Kellahin?

MR. KELLAHIN: Yes, sir.

Mr. Padilla? You may proceed.

MR. PADILLA: I call Mr. Pat Tower at this time.

PATRICK J. TOWER,

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

DIRECT EXAMINATION

BY MR. PADILLA:

Q. Mr. Tower, would you please state your name.

A. My name is Patrick Tower.

Q. Who do you work for?

A. I work for Santa Fe Energy Operating Partners, L.P., as a senior landman in Midland, Texas.

Q. How long have you held that position?
A. With Santa Fe Energy, approximately eight years.
Q. Have you testified before the Oil Conservation Division as a petroleum landman in the past?
A. Yes, I have.
Q. And have your credentials been accepted as a matter of record as an expert witness as a landman?
A. Yes, sir.
Q. Mr. Tower, are you familiar with the application and the land ramifications insofar as the application of Santa Fe Energy and of Exxon's application are concerned?
A. Yes, I am.
MR. PADILLA: Mr. Examiner, we tender Mr. Tower as an expert petroleum landman.
HEARING EXAMINER: Are there any objections?
MR. KELLAHIN: No, sir.
HEARING EXAMINER: Mr. Tower is so qualified.
Q. (BY MR. PADILLA) Mr. Tower, let's have you tell us briefly what Santa Fe's application seeks to accomplish.

A. Okay. Santa Fe seeks compulsory pooling in a nonstandard gas proration unit, comprising all of Section 20, Township 23 South, Range 25 East, for 640-acre spacing, based on the nearest field, which is the Rock Tank Lower and Upper Morrow Pools.

Q. Mr. Tower, why have you based your application on the pool rules of the Upper Tank and the Lower -- I mean the Upper Tank -- Rock Tank Upper Morrow and the Rock Tank Lower Morrow?

A. Strictly based on conversations with the OCD advising us we were within one-mile boundary of such pool, and that it would require us to space it on 640-acre spacing to drill a well.

Q. Mr. Tower, let's turn to your Exhibit No. 1 and have you identify that, please.

A. Okay. Exhibit No. 1 is a land plat, and, in essence, the same land plat presented by Exxon, if I can refer back to their testimony to save time. It identifies or outlines Section 20, which would be the proration unit for 640 acres, and also identifies the land position in there, which is, in essence, the same information which Exxon testified is correct as far as the ownership and the lease status.

One exception I will clarify is Santa Fe's tract in the northwest quarter of the northeast

quarter is a 40-acre tract, and Santa Fe does have the entire 40 acres leased.

Q. We know already what your relationship with Exxon is, but what is your relationship with Amoco, who owns the south half of the section?

A. In this instance, we have been discussing with them, similar to Exxon, seeking their support for drilling a well in this area. They have advised us that they were not going to show up at the hearing, and they're not going to oppose it and take sides as to the issues of the spacing, location, etc.

However, they did agree with Santa Fe verbally that they will not oppose what we're doing, and they will actually support us with a well in the form of either a nonconsent, based on the order to be issued, or in the form of a farmout; that they, in other words, would contribute their acreage to Santa Fe in some fashion for the drilling of a well.

Q. Mr. Tower, originally, Santa Fe filed its application for a 320-acre spacing, and then we had a subsequent application for 640-acre spacing. Would you briefly tell us about why the change was made?

A. Okay. Initially, it was felt, and I don't recall exactly -- it might have been through preliminary conversations with the District OCD that

the Dark Canyon Penn Field would include the Morrow here, and we were led to believe it would be on 320-acre spacing at that time. We filed it. At that time we were advised that it may not.

We double-checked, got back to the OCD. They checked the details, called us back and said, no, this section would not qualify for that and would have to go into the Rock Tank and would have to be under 640-acre spacing. At that time we refiled our application.

Q. Mr. Tower, you have sent notices to Siete Oil & Gas Corporation of this well, as to Exxon and to Amoco concerning your application?

A. Yes, I have.

Q. What is your relationship with Siete Oil & Gas?

A. Initially, and as Exxon testified earlier, in January of this year, Siete approached Exxon, Amoco, and Santa Fe to form a working interest unit comprised of all of Section 16, all of 17, the east half of Section 20, and all of Section 21 for the drilling of a well in Section 16. We have not signed any agreements. However, we have advised all parties that we'd like to see a well drilled in this area to test the idea.

We have agreed with Siete, if they drill a well up there, they would operate, and we would participate. However --

Q. When you say "up there," where do you mean, "up there"?

A. In the southwest quarter of Section 16.

Q. What well is going to be drilled there first, yours or theirs, or what's the order of drilling?

A. Our plans would be to drill Section 20 first. There is some debate with Siete as to which well would be drilled first. We've asked them to not drill their well so that we could proceed with Section 20 and drill it first.

Q. Mr. Tower, let's go on to your Exhibit No. 2 and have you identify that for the examiner.

A. Exhibit No. 2 is various correspondence with Exxon Company, USA, Siete Oil & Gas Corporation, and Amoco Production Company concerning the proposal of this well in Section 20.

Q. Mr. Tower, Mr. King testified extensively concerning one of the proposals that Exxon had made to Santa Fe Energy dated October 19, 1989, and it's in your exhibit, and this is the exhibit that -- the Exxon exhibit that also shows the two proposals that

Exxon had made to you, itemized proposals.

I'd like for you to discuss each of those before the examiner and tell what Santa Fe's version of the proposals are.

A. Okay. Were you referring to the initial proposals in September to Exxon?

Q. No, sir. I'm referring to the October 19, 1989, letter, from Exxon to Santa Fe Energy.

A. Okay. In essence, the October 19th letter is in response -- is a letter from Exxon to Santa Fe in response to letters of August 25 and September 26 from Santa Fe to Exxon.

This October 19th letter basically states that Exxon would lean towards farming out for our test; however, they would prefer an east-half proration unit for the well and would offer us favorable farm-out terms, as they noted earlier, for the east half, or in lieu of that, if a well was to be drilled in the north half of Section 20, they would offer to farm out based on more stringent farm-out terms.

Q. What is the nature of the more stringent farm-out terms?

A. Basically, the difference lies in they would have a third back-in on the north half versus no

back-in on the east half.

Q. Do you agree with the one-third back-in at the payout?

A. No, we do not.

Q. Why don't you?

A. Generally, in my experience in New Mexico, and we've drilled quite a number of Morrow wells in the last several years, this being a risky well, wildcat, the general terms -- and there are exceptions, but the general terms we've offered and also accepted have been based on delivering a 75 percent net revenue with a quarter back-in, and those being the maximum we generally have seen in the industry.

Q. Mr. Tower, if you have a lay-down unit, your acreage would be included in the north half proration unit based on 320 acres, and if you have an east-half proration unit, your acreage would also be included?

A. Um-hm.

Q. Explain to the examiner why you would prefer a lay-down unit as your application has called for.

A. Okay. There's basically three separate reasons. Two of them, which differ from the

geological testimony, being the topography, second, the geological information, and the third, dealing with the land in, noting again that the south half of Section 20 is a federal lease owned by Amoco at this time.

In conversations with Armando Lopez at the BLM concerning this situation, and these were subsequent to Exxon's conversation with Armando --

Q. How do you know they were subsequent to their conversations?

A. Basically, Armando Lopez indicated he had talked to Exxon concerning this matter when I brought it up. But, in essence, it's our understanding, and again there are exceptions, and Armando stated this for various reasons, that they will generally -- or the federal regulations will not allow you to communitize and split that south-half lease into stand-up proration units if you can independently develop it without communitizing it.

He indicated that there were exceptions -- if the geology would indicate that there was no viable location at all geologically on the south half, that they might consider communitization.

The other was a situation they said where if noncommunitization, you had to drill an unorthodox

location, but with communitization, you could drill a legal location. Then in those cases they might grant an exception and allow you to communitize and split the lease.

We have in two different instances, as I recall in the last five years, run into this, similar circumstances. In one case we actually went to the BLM with the geology. We owned both leases involved on 320 spacing where there were two separate leases, and we felt we could show the BLM it was more prudent to split those two. However, even though it was a less acceptable geological location not splitting them, they denied communitization because they strictly adhered in that situation to the federal regulations because there was a location, although not as acceptable, geologically.

So based on those experiences in the past and our conversations, we were led to believe that it's not possible to split that lease and stand these up, and that's why, from a land standpoint, we have pursued the north half.

Q. When did your efforts to make a deal with Exxon start?

A. Concerning the well proposal in Section 20, the initial proposal was made August 25th, and then

we've had numerous conversations since then and several meetings concerning this issue. We had actually discussed the possibility of drilling a well in the area with them in connection with Siete in trying to get together and share the risk to test the idea in the area as early back as starting in January or March, May, somewhere in that area, in conjunction with Siete's proposal.

Q. Getting back to that, what was Exxon's attitude with the --

A. The response was, "We do not want to drill a well at this time, and we do not want to basically participate in any well."

When we proposed a well in Section 20, the letter response said basically -- we basically offered to let them join test or farm out on mutually acceptable terms. We have approached companies in that fashion many times hoping we could negotiate those terms, probably just setting them out in writing at the onset. But their response initially was, "We do not want to do anything. We do not want to participate in the well."

And we received a letter back September 26th to that effect. Subsequent to that is, I believe, when we filed forced pooling and then we

received the additional correspondence offering to farm out.

Q. What is Santa Fe's land position in the area?

A. In just Section 20 or --

Q. The general area.

A. The general area. As stated, we have the 40 acres in Section 20. We're also -- in some fashion Amoco has indicated they're going to commit their acreage to Santa Fe.

Q. Do you have any deals with Amoco of any sort that might indicate more than just talk?

A. We entered late last year -- we entered into a large joint venture with Amoco covering a substantial amount of their southeast New Mexico lands where they've committed those to Santa Fe under a large farm-out agreement. These particular lands in Section 20 are not included in that deal, but we've got an ongoing relationship under that large agreement that will extend several years.

And so based on our -- we have dealt with each other at length under this agreement within the last year; so we generally have a rapport, have had many conversations with Amoco and an understanding.

Q. When was the latest conversation you had

with Amoco regarding the south half of Section 20?

A. I don't recall the exact date. It was last week. However, I believe their area land manager for Amoco was in Santa Fe's offices, I believe, yesterday on another matter, and this topic came up, and he again reiterated that they would support Santa Fe with this acreage.

Q. I believe I had -- before I interrupted you, I had asked you what the Santa Fe position was in the area. Can you continue with that testimony?

A. Yes. Santa Fe, aside from Section 20, we also own all of Section 21 or have control under two federal leases, with the exception of the southwest quarter of the southwest quarter.

We also have some extensive acreage holdings to the northeast up in Section 9, also in Section 16 in the Siete Oil & Gas, that 40-acre oil and gas lease, we jointly purchased at a sale just under a joint agreement. So we have 50 percent interest in that 40, in various other acreage to the north and also to the southeast.

Q. Mr. Tower, when did you realize that Amoco was not going to participate in the drilling of any well in this area or in Section 20?

A. It was based on a conversation. I believe

it was last week that they had indicated they will not participate in the well, and they basically stated that.

Q. When did you receive notice of their forced pooling application?

A. Of Exxon's forced pooling application?

Q. Yes, sir.

A. It was November 14.

Q. Since that time, I take it that you have tried to negotiate since November 14 to resolve the impasse?

A. Yes.

Q. Exxon has testified that they have no problem with your AFE or with your operating a well in Section 20, as long as it's in the east half of Section 20?

A. That's correct.

Q. Is that correct?

A. Yes.

Q. They don't want you to be the operator of a well to be dedicated to the north half of Section 20?

A. That would be my assumption, yes.

Q. The only reason for that objection, I take it, is that it doesn't conform with an east half proration unit?

A. That's correct.

Q. Assuming an order is issued by the Oil Conservation Division granting your application, Mr. Tower, would Santa Fe desire to be named the operator under that order?

A. Yes, we would. I might go back to your other question, if I can --

Q. Okay.

A. You mentioned that was the only reason. We did have conversations, the 14th, myself, with Exxon's representative, Brockman King, where we noted that they had designated as operator. We know we called them to ask about them force-pooling us, and we received a notification and asked them for justification under OCD rules.

At that time I requested -- I asked them if it was their intent to participate in this act, that they were force-pooling us, and their response was, again, that that not necessarily was the case; that they may still farm out. I wanted to point out there was no intent, it appeared to be, to drill a well out there at the time they force-pooled us.

Q. Even if they force-pooled you, you were not sure whether they would still drill a well?

A. Even in the east half.

Q. Is that your feeling, or what is that?
A. That's just my feeling.
Q. Let's go on to Exhibits 3 and 4 and have you identify those, Mr. Tower.
A. Exhibit 3 is a copy of the certification, return receipts, which accompanied Santa Fe's initial proposal letter -- or excuse me -- the initial application for the 320-acre north-half spacing unit.
Q. And Exhibit No. 4?
A. Exhibit No. 4 is, likewise, the return receipt that accompanied the application notice for the 640-acre compulsory pooling hearing.
Q. Exhibit No. 5, Mr. Tower, what is that?
A. Exhibit No. 5 is a well cost estimate for the drilling of the well, which is entitled the "Escalante Fed Com 20 #1," which is the well that Santa Fe desires to drill in Section 20.
Q. Mr. Tower, you have at the top of that AFE, you've crossed out "footage," and you've added in lieu of that "11,100." Can you explain that?
A. Yes. And also I'll point out that the location has changed. Initially, when Santa Fe proposed the drilling of the well, we had not been out on the ground or surveyed any locations.
Q. When was that, Mr. Tower?

A. This was in late August, early September that we sent this out.

Q. Why did you change the footage on the well?

A. Okay. Subsequent to that, when we actually went out, and we staked several locations and realized that the topography was quite difficult, and we chose a more acceptable location, which is noted in the application, and basically went up approximately 200 feet up on the top of the canyon, or whatever you might call it out there, and due to that, it increased the drilling because we're getting to a more acceptable location and a higher point.

Q. How did the change in footage affect the bottom line of the AFE?

A. According to our engineer who prepared this, it does not affect it because he had built in some contingencies that would cover his costs.

Q. What's your actual footage location that you're now proposing?

A. It's 1,980 feet -- or excuse me -- yes, 1,980 feet from the north line and 1,980 feet from the west line of Section 20.

Q. Is that an orthodox location, Mr. Tower?

A. Yes, it is.

Q. Your application also asks for a

nonstandard proration unit. Can you explain why that is a nonstandard proration unit?

A. Yes. As Exxon testified earlier, this section does not contain 640 acres. It contains roughly 600 total acres in the full section.

Q. And for that reason alone, you're asking for a nonstandard proration unit?

A. That is correct.

Q. Mr. Tower, what kind of drilling rates are you proposing for drilling a well or overhead charges for drilling a well and a completed well?

A. We are agreeable to the same rates, and we also used the Ernst & Whinney guidelines. Therefore, we would propose the same rates that Exxon did earlier.

Q. You have no problem with those rates?

A. No, sir. And let me elaborate; we also would propose if they were to join this well to use the 1982 A.A.P.L. Form Operating Agreement.

Q. That's the same operating agreement that they propose?

A. Yes, it is.

Q. Mr. Tower, do you have anything further to add to your testimony?

A. Not at this point.

MR. PADILLA: Mr. Examiner, we tender Exhibits 1 through 5.

HEARING EXAMINER: Are there any objections?

MR. KELLAHIN: No objections.

HEARING EXAMINER: Exhibits 1 through 5 will be admitted into evidence at this time.

Mr. Kellahin, your witness.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Tower, why did you call this well a wildcat well?

A. Basically, there is no offsetting producing wells at this time in the immediate area. Now, that was a loosely -- it may have been a loosely-defined term. Generally, there are no direct offsets, with the exception of the well to the northwest in Section 18.

Q. Do you participate on behalf of your company, Mr. Tower, in the BLM sales of federal lease acreage for New Mexico?

A. Yes, I do.

Q. Were you employed by your company in that capacity during the period of time in which the acreage in Section 20 came up for federal lease bid?

A. Yes, I was.

Q. Did Santa Fe or you on behalf of Santa Fe or Santa Fe through some other personnel bid on the acreage in Section 20 when it came up for federal lease sale?

A. We bid on a number of sales in this area. I don't recall specifically on this tract whether we did or did not. We have bid in the area, but I just don't recall.

Q. What type of bid prices are you paying in this particular area of those federal lease sales?

A. It has varied. In Section 21, we purchased our acreage for $67 an acre, also in the west half. In the east half, we paid $106 an acre. Acreage in the area, the bid with Siete in Section 16 went for $312 an acre. So it's greatly varied depending on each sale and the competition.

Q. Mr. King has testified that Exxon acquired its interest from the federal lease sale at $45 an acre, and that would be significantly less than what your company has been paying for other similar acreage in the area. Your company could have acquired the interest apart from forced pooling by simply bidding a comparable price at the sale, could it not?

A. That's very true.

Q. But you chose not to do so?
A. At the time, I don't believe, leading back a little bit to the geology which will be presented -- I don't believe we had our geological picture complete at the time, and a lot of times when the sales come up, depending on what justification we have internally depends on what price we can pay.
Q. Did you have your geologic picture in place on October 26, 1989, when you wrote your letter to Mr. King?
A. Yes, we did.
Q. And that geologic picture hasn't changed today, has it?
A. No.
Q. There's nothing contained in your letter to Mr. King of Exxon in your letter of October 26 that says that you're rejecting the east-half proration unit for geologic reasons, does it?
A. No.
Q. What is Santa Fe's relationship with Siete, Mr. Tower?
A. Strictly informal at this point concerning Section 20 and Section 16. We have no written agreements, just an understanding that we would both like to see a well drilled out in this area.

Q. Is part of that understanding the creation of a working interest unit in the areas described in the letter that Siete sent Exxon on January 26, 1989?

A. Yes, it is. The initial approach, which is quite common in southeast New Mexico to share the risk with wells, is to pool the acreage so that all parties affected share the risk and also derive mutual benefits.

Q. Did your company participate with Siete in the selection of the type of acreage and the area to be included in that proposed working interest unit?

A. No, we did not.

Q. Did you voice to Siete any objection that they had included as a proposal only the east half of Section 20?

A. No, we did not. Let me elaborate on that. Initially, when discussions came up to drill a well in the area, and Exxon indicated they would not support -- trim their acreage or support the well, our management felt that we would prefer to move the location and, therefore, get in an area that we could justify drilling just as well and --

Q. Excuse me. I misunderstood what you were saying. At the time you were making this decision, was that after Siete and you had agreed to drill the

well in the south half of Section 16?

A. Start over. Run that question by me.

Q. Yes, sir, I've lost track of the sequence. What we were talking about is the formation of a working interest unit that included part of 20, the Section 16 interest, and other acreage. The Siete letter of January 89 proposed also a well in the southeast quarter of 16.

A. Right.

Q. Was that well ever staked?

A. I believe it was.

Q. And was it permitted?

A. That I don't know. I am not sure if they've permitted at this point or not. They may have.

Q. Thereafter, then, there was discussions about obtaining a spacing unit in Section 20, and the various letters from Santa Fe and Siete were sent to Exxon and Amoco to get acreage in Section 20; right?

A. That's correct.

Q. At some point in time then after Siete is working on a well in the south half of 16, a decision is made to abort that effort and pick a well location in Section 20 where your company only has 37 acres. Why did you do that?

A. It goes back to the work interest unit situation and the risk involved. Our position is that if a well is going to be drilled in this area to test the idea, that all parties are going to derive benefit, which Exxon will in Section 16, we will, obviously, Siete will -- it ought to be drilled at a location where the parties mutually share the risk and contribute acreage to do so.

So the decision was made, since Exxon would not indicate they would drill a well or cooperate, we felt that we could drill the well to test our idea in this Section 20. And we had acreage there, mutual acreage, and it would force the parties to get together and share the risk.

Q. What percentage would Santa Fe have of a spacing unit on 320 acres for a well drilled in the southwest quarter of Section 16?

A. For a 320-acre lay-down or east half?

Q. Pick one, either one.

A. Based on having the conversation with Amoco, and assuming that they perform on that, we have acreage, we would have --

Q. We're talking the wrong section, I'm sorry. Section 16.

A. Section 16.

Q. Section 16. If the well in the southwest quarter had been drilled by Siete, what would your company's interest have been in the well?

A. If an agreement was made, which it was not in the original working interest proposal, it would have been approximately 30 percent. If Amoco wouldn't join, which it probably wouldn't, it probably would have been about a third, assuming Exxon and Siete participated with their acreage in the working interest.

Q. The greatest possible percentage of the working interest then in the southwest of 16 was what percentage for your company?

A. Assuming all parties joined, it would have been approximately -- and assuming Amoco would not join, it would be approximately 33 percent, or a third, as I mentioned.

Q. And that well would have been a high risk, deep gas Morrow well in the area, wouldn't it?

A. Yes.

Q. And those are risky things, aren't they?

A. Yes, they are.

Q. And your company made the decision to minimize that risk by moving it in the section that's diagonally offset 16, move it over in 20 where you

have only 6 percent interest in the section, and thereby spreading that risk to the working interest owners in Section 20?

A. Part of the reason is to spread the risk, but the facts would indicate Amoco is going to contribute its acreage to Santa Fe. So Santa Fe's interest will go up considerably. If you did it on a 640-acre basis, collectively with the Amoco acreage, we would have 56 percent.

Q. That hasn't happened yet?

A. That has not happened, but verbally they've told us they would commit the acreage.

Q. And companies change their minds, don't they?

A. That's true.

Q. Mr. Tower, when we look at Section 20, you've described the northwest of the northeast as having 40 acres. My map shows 37 plus.

A. We, based on federal abstract company and also independent land broker that acquired this for Santa Fe have advised us that that is a 40-acre tract.

Q. I believe you. I'm not going to quibble with you. We'll call it 40 acres.

Let's talk about Santa Fe Energy Operating Partnership. You are a landman for -- your second

page of your letter of October 26 identifies you as a landman for the managing general partner of this limited partnership, and the managing general partner is something called Santa Fe Pacific Exploration Company?

A. That is correct.

Q. In terms of the way this limited partnership is structured, are there any other general partners other than Santa Fe Pacific Exploration Company?

A. I don't believe so. However, I am not the expert and legal counsel when that was put together. I will point out, I believe this issue has come up in a recent case that Mr. Kellahin handled for Bass Enterprises where these issues were presented to the Commission as to the entities involved with Santa Fe and were satisfied at that time.

So I would basically state I'm not qualified to answer all the questions, if that's the where you're heading.

Q. You're anticipating the questions I'm going to ask you because of what I asked Mr. Green several months ago; correct?

A. Yes.

Q. Let's see how you do. To the best of your

knowledge, Santa Fe Pacific Exploration Company is the only general partner, as best you know it?

A. As best I know it, I believe that's correct.

Q. The limited partner aspect of this entity, is that limited partnerships that are generated by selling public offerings of limited partnership interest?

A. There are units sold on the stock exchange, I believe, and, there again, I'm not a securities expert, but if I understand the question correctly, I believe that's correct. Generally, Santa Fe or its managing general partner controls, I believe, 80 percent. Only 20 percent were offered in units that were sold to the public.

Q. In terms of the applicant then, the applicant for operations of the spacing unit for whatever Mr. Stogner decides to do with this case, is, in fact, Santa Fe Energy Operating Partners Limited?

A. Yes, sir.

Q. Do you know whether or not the general managing partner contributes any funds into that partnership?

A. Well, I'm not sure -- I'm not sure of the answer to that, no.

Q. Do you know whether or not the managing general partner receives a fee or a payment regardless of the success of the well drilled on behalf of the partnership?

A. That I'm not sure of either. I can tell you, as Gary Green testified in that previous case, our decisions are not made like what in the industry you would call a "funny money" outfit. Our decisions are based on economics and rate of returns, and we do not drill wells just to spend other people's money.

We have stated economic parameters, and if we don't meet those, we don't proceed.

Q. As I understand it, for this particular area then, the initial exploration well to be drilled in either Section 16 or 20 is going to be moved to Section 20 because that diminishes the financial risk of your company by moving that risk on to Amoco and Exxon?

A. As I stated earlier, the reason for drilling Section 20 is to spread that risk, to test the idea in the area that it will derive benefit for all parties involved. We feel it's more acceptable to drill it in 20 for that reason.

Q. Let me ask you about your October 26 letter, Mr. Tower. The second full paragraph, you

express to Exxon some of the difficulty you're having in matching up a topographically acceptable location within the section, and you indicate after approximately four locations have been staked. Can you tell me what the footages were for those four locations?

A. I can, or if I could, our geological witness is going to present those as well as the topography, if it's okay with the OCD first.

Q. Let's talk in terms of what you have presented then. The first choice of a location within the section was one that would have been on the Santa Fe 40-acre tract in the northwest of the northeast?

A. That is correct.

Q. The first proposal then based upon this geologic interpretation was one 660 from the north line and 1,980 from the east line of Section 20?

A. That is correct.

Q. And the reasons that you express to Mr. King of Exxon for opposing or rejecting his proposal for an east-half orientation to that spacing unit were, first of all, that the Division had told you that, because of your proximity to Rock Tank, you're going to have to consider 640 gas spacing?

A. That is correct.

Q. In having those discussions with the personnel at the Oil Conservation Division, did you personally participate in any of those discussions?

A. Yes, I did.

Q. Did you offer to present to the Division any of the geology that your technical people had developed in terms of defining what pool the Section 20 ought to be dedicated to?

A. No, we did not. We discussed, and as our geological witness will testify, he was involved in the conversation -- there were discussions over the phone concerning geology in his maps. However, they never requested us to present it. We did not offer. If they had requested, we would have been happy to comply.

Q. With whom did you have those discussions, Mr. Tower?

A. There were several discussions with Darrell Moore.

Q. In the district office?

A. OCD district office. And there was a subsequent conversation just trying to clarify how to file the application with Mr. Stogner.

Q. When we look at the conversations with Armando Lopez at the BLM, Mr. Lopez is down in

Roswell, I believe, is he not?

A. He is.

Q. Your letter states that regardless of what the Oil Commission determines is appropriate in terms of spacing or in orientations of spacing units, if they adopt 320 gas spacing, you're telling Mr. King that the BLM is, in fact, going to determine what is best for everybody because of what they think is best for them?

A. That was not the intent, if it's read that way, as far as in my letter.

Basically, what I was trying to state is, as I testified earlier, the problems with the federal government allowing communitization of the federal lease where you can develop it separately. Basically what I was trying to communicate here with this letter is, it is our feeling and based on our conversation with Armando Lopez and other circumstances, that the federal government would not allow us to split that lease. Therefore, it was our conclusion that an east-half proration unit is not possible; so, therefore, proceed with the north half.

Q. Did you submit to Mr. Lopez any geologic argument or presentation with regards to any issue geologically about the orientation of the spacing

units?

A. No, we did not. We talked in generalities as to the orientation of geology. And as he stated to me, if there's any location possible, regardless of the economic merit, whatever, geologically, or within reason, on the south half, they would not allow communitization.

Q. Right. Their preference is, for example, to take the south half, which is one federal lease --

A. Right.

Q. -- and if there's a drillable location in there, it's their first preference as the lessor to have the well on the federal lease?

A. That's correct.

Q. That's always their position, isn't it?

A. As far as I know.

Q. And the CFR regulation provides for exceptions and variances from that if there are sound geologic reasons for doing otherwise, aren't there?

A. That is correct.

Q. You're going to have to communitize that federal lease in the north half if Mr. Stogner approves the north half anyway, aren't you?

A. Yes.

Q. You're going to have to put it together

with that 40-acre fee tract, aren't you?

A. That is correct.

Q. I assume that Santa Fe Energy Operating Partnership would drill the well even if Mr. Stogner determines that the appropriate orientation and spacing is 320 in east half?

A. I think we would proceed. If the OCD determines that's the proper way to do it, Santa Fe would proceed. However, you know, we've come up here based on the fact they've told us we cannot do that.

Q. I understand, Mr. Tower, but my point is, you're not going to pull the plug and walk away if Mr. Stogner says, based upon his analysis of the geology, he's resolved it, and we win; and you're not just going to walk away?

A. No. As I've testified earlier, our goal in this area is get a well drilled, and we'd like to see companies participate with us and share the risk. And if they're not going to do it, basically we would like to derive some of the benefits for taking the risk.

Q. When we look at the offer Exxon made to you, they, in fact, offered to you this 75-25 deal, did they not, provided it was limited to an east half, wasn't it?

A. When you say 75-25, you mean just an

override, no back-in? Could you elaborate?

Q. Sure. Mr. King's letter of October 19th, in his first paragraph that's numbered, he said he would offer you a 75 percent net revenue lease, and then Exxon's going to reserve an override equal to the difference between 25 percent and the lease burdens.

A. That's correct.

Q. That's 75-25 to me, I guess. Don't worry about the back-in. 75-25 split. Your letter says, that's okay with us except we want 640.

A. That was based on the fact that the OCD told us we had to do it on 640. Therefore, these issues in our mind were moot. Granted, those are more favorable terms, and we would accept those. However, we think the issue is irrelevant as to the terms there because we were advised we had to do it on 640 acres, and we offered more acceptable terms to do it, if they wanted to farm out on the spacing we believed to be intact or in existence.

Q. And that's why we're here today, isn't it?

So I'm clear on this point, Mr. Tower, am I correct in understanding that the first location picked by Santa Fe was the location 660 for from the north line, 1,980 from the east line, which would have put you in the northwest of the northeast?

A. That is correct.
Q. That is because, after examining the topography after picking that as the geological location, you find you can't fit it on the terrain out there, and you had to move it?
A. That is correct.
Q. And you've now moved it. There were several stakings, but the current proposal is to put it 1,980 from the north and west lines of the section?
A. That is correct.
Q. Have you determined for yourself to your own satisfaction that that is a drillable surface location?
A. Upon advice which will be presented by our geological testimony and our engineering staff and a registered surveyor on the ground, yes.
Q. That's not something you directly do?
A. No.
MR. KELLAHIN: Thank you, Mr. Examiner.
HEARING EXAMINER: Thank you, Mr. Kellahin.
Mr. Padilla, any redirect?
MR. PADILLA: I don't think I have any.
HEARING EXAMINER: I have no questions of Mr. Tower.

Let's take a lunch recess and reconvene at 1:45.

(Thereupon, the lunch recess was held.)

HEARING EXAMINER: This hearing will come to order. Mr. Padilla?

MR. PADILLA: Mr. Examiner, we'll call Bob Seiler at this time.

ROBERT C. SEILER,

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

DIRECT EXAMINATION

BY MR. PADILLA:

Q. Mr. Seiler, would you please state your full name.

A. Robert C. Seiler.

Q. Where do you live?

A. Midland, Texas.

Q. Do you work for Santa Fe Energy Operating Partners?

A. Yes, I do.

Q. What do you do for them?

A. My current title is senior staff geologist.

Q. Have you testified before the Oil Conservation Division as a petroleum geologist in the past?

A. Yes, I have.

Q. Have you had your credentials accepted as a matter of record as an expert petroleum geologist?

A. Yes, I have.

Q. Have you made a study of the geological matters involved in the application filed by Santa Fe Energy Operating Partners in this case?

A. Yes, sir.

Q. And you're familiar with the Morrow formation and the relevant pool rules in the area?

A. I am.

MR. PADILLA: Mr. Examiner, we tender Mr. Seiler as an expert petroleum geologist.

HEARING EXAMINER: Are there any objections?

MR. KELLAHIN: No objections.

HEARING EXAMINER: Mr. Seiler is so qualified.

Q. (BY MR. PADILLA) Mr. Seiler, let's start off and have you give us a general description of the geology as you know it and you've studied in the area of the application, or Section 20, specifically.

A. We interpret Section 20 of 23 South, 25 East, as being in an area of Morrow deposition, basically as described earlier by Exxon, with primary

fluvial drainage northwest to southeast, generally, for the most part, in fluvial channels. We do recognize that there can be bars developed, but for the most part they are fluvial channels with a northwest-southeast orientation.

We recognize and agree generally with the division of the Upper Morrow and the Lower Morrow as presented and find no real fault. I would have to say we generally agree with most aspects or all aspects as presented.

Q. Let's go on to what we have marked as Exhibit No. 6 and have you tell us what that is and what it contains.

A. Our Exhibit No. 6 is a structure map that is drawn on top of the Morrow marker that is identified on the subsequent cross-section we will introduce as Exhibit No. 8, that being what we call the top of Morrow Sequence 2.

It shows generally an east-southeast dip at the rate of 2 to 3 degrees, being a couple hundred feet or so per mile, slight undulations and nosing, and does show the flank of a portion of the Rock Tank Field that was referred to earlier.

Also shown on the map is the producing wells in the area, and they're color-coded to the key

at the bottom of the page, Strawn, Atoka in one well, and Morrow in the remainder.

We also show the 640-acre proration unit that comprises Section 20, which we now understand is something short of 640 acres, actually closer to 599 or 600. And highlighted is our Santa Fe 40 acres in the northwest of the northeast of Section 20.

Shown is a red square, which would be the proposed location that we came to the Commission with, assuming the 640-acre spacing, the guidelines that we understood were in force for this section, and that's the location we picked for that.

And then also shown by a dashed line is a portion of a cross-section that is indexed that I made reference to in Exhibit No. 8.

Q. Let's go on now to Exhibit No. 7, Mr. Seiler, and have you identify that for the record.

A. I'd like to kind of handle 7 and 8 together, if I could.

Q. Okay.

A. Seven is a net porosity isopach. Reference was made earlier to a sand isolith. I use the names synonymously. If we say net porosity isopach, it's just semantics whether you call it that or an isolith.

Q. You're referring to an exhibit of Exxon?

A. A similar map was presented for them and called a sand isolith. I have one; I'm calling it a sand net porosity isopach. They're basically the same map, being that the thickness is represented is of the sandstone and not of the total interval. That map then is what we call Sequence 2.

Sequence 2 is highlighted on cross-section A-A', which we will introduce or call Exhibit No. 8. Sequence 2 is defined, or actually the Morrow here is defined or separated into several sequences in general. And generally they are clastic intervals that are, we feel, basically individual events or units separated by shale markers representing a deepening of the basin, if you will, or a marine transgression. And then the subsequent regression would be comprised of the sequence up to the top of the next transgression.

Such then we have Sequence 2 highlighted in yellow as defined in the three logs on that cross-section with the marine shale at the base, generally coursing upward sand sequence up to the overlying shale, which would then mark the base of Sequence 3. And we've done that. Labeled them such as Sequence 1, 2, 3, and 4, starting with, we refer to as the top of the Lower Morrow, actually as defined in

the Rock Tank Pool definitions. That marker is used to separate the Upper Morrow and the Lower Morrow.

We start then from there and work our way up and go Sequence 1, 2, 3 and 4, in what would all be in the Rock Tank -- equivalent to the Rock Tank Upper Morrow. And then we label the Lower Morrow sequence separately L1, 2, 3, 4, and 5, just for explanation.

The tie then to the map, what we see is a net porosity isopach of the sands in Sequence 2. And what's demonstrated then is a portion of a low bait sand body; geometry is what I would refer to as low bait. And we visualize this sand body as being a result of sand being brought to this area in a fluvial system from the northwest, again, relying back on this northwest to southeast orientation that's been referred to, with the sand being thickest in a well in Section 15 with 51 feet indicated.

We also see an arm of the sand, if you will, extending down to the southwest in the direction of Baldridge Canyon. And we visualize that as one of two things. The preferred interpretation is that that may be a crevice splay of some sort off of this low bait deposit. That is, the sand was brought in from the northwest, and generally we have a deltaic, low bait-oriented geometry, oriented basically, running a

thickening in an east-west pattern until it reaches the eastern extremity of the mapped area where it tends to be strewn out north-south. And we think that may have been the end of the lobe and distributed then by marine currents.

And then the arm that extends down to the southwest would be a crevice splay or a distributary off this deltaic system, depositing correlative sand into those wells down in Section 31.

The significance of the well in 31 is that that well, as indicated on the map, did produce gas out of this mid-Morrow Sequence 2. And we then take the elevation of that perforation in that well and call that our lowest known gas.

Q. Why is that relevant to this presentation?

A. Well, we want to establish that there are numerous sands, as you can tell from the number of sequences that we've identified -- there are numerous sands in here. And previous testimony indicated that certainly the Rock Tank pays, the Upper Morrow pay and the Lower Morrow pay were very important to this prospect, and, indeed, we agree with that, but, in addition, other zones in here have potential.

In this particular Sequence, 2 did produce in that well, the south half of Section 31 on DST and

then subsequently through perforations. Therefore, we use that line as lowest known gas. That is the elevation point taken or just form lined, if you will, from the structure map.

There is another line across the sand body. It's colored blue, and it's labeled "HKW," which is for highest known water, and that is the highest tested water that we see in this Sequence 2 sand that was tested in the well in the northeast of Section 22. This particular well showed excellent reservoir quality, having 9,512 feet of salt water recovery on DST, and indicates very, very good reservoir quality thereby.

We take the elevation then of the highest perforation or the highest point of that test, I should say --

Q. What test?

A. The test in Section 22, the one with the 9,512 feet of water. We take the highest porous foot in the sand in that well and label that highest known water, which has a subsea of minus 7,231 feet.

Q. In terms of the drilling prospect in the north half of Section 20, as you propose, what does this presentation show?

A. I'm sorry. I lost your question.

Q. What does this presentation show in terms of your proposed location?

A. I'm sorry. Thank you.

It shows then that the section in question here, Section 20, is prospective in that it lies above the water zone in this -- the highest known water that's observed in this particular interval, and it shows that the sand thick trends along, if you will, the north half of Section 20, and shows then also that the east half of the section has the best chance for sand in this zone.

Q. In terms of stand-up or lay-down units, how would you evaluate your geology with regard to configuration of the proration units?

A. We would like to say that we prefer lay-downs as opposed to stand-ups for the reason that we would then have two locations in Section 20. If possible, we would like to drill a well in the northeast of Section 20, as well as the southeast of Section 20.

Q. Mr. Seiler, does that assume that 640-acre spacing is not applicable?

A. I should stand corrected. Thank you. If it were to go to 320's, that's how we would do it. If it was 640's, then we would like to drill in the north

half.

Q. In terms of future development, should you drill your first well on 640 acres, would drilling, as you propose, also help in the further development of Section 20, should that become necessary in the future?

A. I'm not sure I understand. Would we have another well in the south then, in the southeast?

Q. Yes, sir.

A. Yes, that's correct, if it were being deemed that a second well was warranted if we're on 640, or if indeed it goes to 320's. We see the north half supporting a well and the south half supporting a well.

Q. In terms of the actual location of the well, geologically, where would you prefer to have that well located?

A. If there were a viable drill site in the northeast quarter, and by our determination, and we'll have another exhibit explaining this, we don't believe there is a viable location in the northeast quarter; however, if there were one, we would like to drill in the northeast quarter. There's no question about it.

Q. Mr. Seiler, your geology doesn't show the fault that Mr. Tate's geology shows, and I'm referring

to Mr. Tate's second fault. In regard to that, can you tell us why you have not shown a fault on your geology?

A. Indeed, our Exhibit 6 is mapped on a slightly different horizon, but they are really quite close together. There are two ways to interpret the data as relates to close in to Section 20.

The magnitude of the fault, the easterly most fault that we made reference to earlier is by -- I think it was stated at 75 to 100 feet, that it is possible that there could be a fault through there in that area. However, it easily can be contoured such that you don't have to honor a fault there. And it was just our interpretation that a fault was not necessary for the data control that we have.

I should elaborate on that, however. We're not saying that the absence of that fault necessarily precludes the fact that there could be a separate reservoir down in Section 20 from the wells to the north. Our interpretation is, indeed it probably is different. It would have to be, I think, if our own map does not show the nosing that was postulated before. There has to be a stratigraphic separation or a permeability barrier.

It appears as though Exxon, Mr. Tate's

interpretation, he's utilized a fault. That certainly is a viable way to answer it. Another way would be to show discontinuity in the sands up to Rock Tank or structural separation by another structure. So there are several ways to handle it. We chose not to have the fault in there.

Q. Do you have any evidence that that fault actually could exist as drawn in Mr. Tate's exhibits?

A. I think it's pretty reasonable from what I see in the Baldridge Canyon area where he has pretty good control. It looks reasonable there.

As to the north, I'm not sure. The well control is not that close in. Order of magnitude, I think maybe for sure it's probably a 75 to 100 foot fault in Baldridge Canyon. I would question whether it would perhaps extend all the way to the north. It's possible.

Q. You feel he doesn't have enough well control to paint the picture that way?

A. I can see what he has done. He's documented it with the study of Baldridge draining to the south and then sees a similar fault that might connect with that to the north. He could very well connect that, and it would be a reasonable interpretation. I think it could be done either way

from the data that's shown, with or without that fault.

Q. In terms of 640-acre spacing, Mr. Seiler, is it your opinion that Section 20 can be developed on 640-acre spacing?

A. My own personal preference is I would rather think it could possibly be done better with a 320, from what's been presented. That's my own personal preference.

The reason that we came forward with the 640, and as you are aware, we filed 320 to begin with, we thought that's the way it was. We were told that the state rules said that this had to be 640. Then we simply tried to comply with the rules and came forward with a proposal on 640. But if it goes to 320, and there can be two wells drilled in there, I think it could more than likely be better done with the two wells, personally, my personal opinion.

Q. And those two wells would be located where?

A. If possible, I would like to drill one in the northeast quarter, and as I've stated, I don't think one can be done there because there's not a viable surface location in our evaluation.

So I would drill one then in the approximate area of the red square as shown on the

various displays, being 1,980 from the north and the west, and then the second well would be drilled then down in the southeast quarter at a suitable surface location. And from the topographic maps, it appears one can be achieved down there, where it cannot be done in the northeast quarter.

Q. Mr. Seiler, are you ready to go on now to Exhibit No. 9?

A. I think so.

Q. Let's go to that and have you identify that for the record, please.

A. Exhibit No. 9 is almost identical to the exhibit that was presented by Exxon; I forgot their number, but I think it's pronounced Carnero Peak Quadrangle, 7-1/2 minute USGS topo map, 1985 provisional edition. It centers over Section 20, and our map shows several dots there. They are various locations, labeled 1 through 5.

Reference was made earlier to that 660 location out of the north and east that was initially proposed by Exxon. That would be dot No. 5.

There are also the other four remaining ones. Three of those have actually been staked on the ground by Santa Fe, being numbers 2, 3, and 4. We have, in addition, staked a well that's not identified

on this map, which would be basically in the center of that 40-acre tract, being 1,980 from the east line and 660 from the north line.

That was our first attempt to try and find a drilling location. I didn't bother putting that one on here, but we have staked that one also.

What we have determined is that, of the three that we currently now have staked that we believe deserve consideration, we have Numbers 2, 3, and 4.

2 and 4 are down in the bottom of the canyon. In fact, No. 2 is extremely close to Exxon's El location. I think it's 265 feet further from the east line, No. 2 is; that is, relative to No. El. And 33 feet further from the north line would be our No. 2. So we're almost in the same place.

We staked those on the ground, and it was done using a professional engineering firm. And we were on the ground with our personnel and also with a member of the Bureau of Land Management, and we staked the three that day, Numbers 2, 3, and 4.

Q. When you say "that day," approximately what time was that, or do you know?

A. Just a second, please. They were done on October -- well, the plats are labeled two on October

11 and one on October 10, 1989. This apparently took two days.

We were on the ground, as I mentioned, with the BLM, and I think it should be pointed out that Mike Burton with our company, who is a drilling engineer, was told by Mr. Barry Hunt with the BLM that his evaluation was that he preferred that Santa Fe give serious consideration to the well out of the canyon, or the location out of the canyon, Well No. 3.

We have since determined with our company then that a well down in the canyon is not viable for two primary reasons. One of them is, and foremost, is for safety's sake. That canyon, as you can tell from our display, the highlighted blue lines are lines of the geologic term "ephemeral streams" or "intermittent streams," but they have a very large drainage area. And when it rains out there, all of that stuff from the west is funneled down into that canyon, which would be extremely close to any location there that we've looked at, being Santa Fe's 2 and 4, as well as E1 that Exxon has proposed.

We don't like any of those because of the safety factor of a flash flood. There are huge boulders down in the bottom of this thing in various

locations, indicating the force of which water runs through this canyon during storms. And maybe even if it did not happen during the actual drilling of this location, subsequent production facility, given a successful well, would be in jeopardy at that location at any time when a storm was to come through.

I don't have the exact information or exact date, but I understand, three years ago, there was a tremendous flood through this canyon. It was really awesome how that water ripped through there, and we would not drill a well at the bottom of that canyon.

The second reason then -- the first being safety. The second reason is the additional cost of building a road to get down in there, whichever way you came. The actual site itself, the location may be somewhat easier, as testified to by Exxon's witness. We don't deny that, and that it would be easier to push the gravel around down there than have to work the top, but to build a road down to that point would be very expensive and costly and perhaps even dangerous with the amount of slope we're talking about.

I should point out, there's almost 200 feet of topographic relief from Numbers 4 back to Numbers 1 and 3 on the map. That's a very steep canyon.

Q. How about your No. 1 location, what's that?

A. No. 1 location is the location as indicated on the right side of the map, 1,980 out of the north and west. That has not been staked; however, that was the location that we chose to conform to the 640-acre. We tried to best fit -- minimum, of course, would have been 1650/1650, but topography such as it was, it's kind of a compromise. We went 1,980/1,980 to get on the flat surface at the top -- rim of the canyon.

That corresponds to the red box on the other displays too, I should point out, displays -- Exhibits 6 and 7.

Q. Do you know, Mr. Seiler, what the substance of -- did you testify concerning the BLM's position on your well site?

A. Yes, I think I did that. Mr. Barry Hunt did not like our staked locations down in the bottom of the canyon, Nos. 2 and 4, and preferred if we were going to drill in Section 20 that we consider something on the top of the rim. And that day it was the third one, No. 3. He preferred No. 3 over the others.

Q. Do you know whether there are any other wells in this general area that are located at the

bottom of this water course?

A. I do not know of any down in the canyon.

MR. PADILLA: Mr. Examiner, I believe that's all I have of Mr. Seiler, and we offer Exhibits 6 through 9 at this time.

HEARING EXAMINER: Exhibits 6 through 9 will be admitted into evidence. Thank you, Mr. Padilla.

Mr. Kellahin, your witness.

MR. KELLAHIN: Thank you, Mr. Examiner.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Let me examine with you, Mr. Seiler, the information available for determination of whether or not Section 20 can or should or ought to be part of the Rock Tank Upper or Lower Morrow Pool.

I am unable to look at either your isopach or your structure map and draw a direct correlation between Section 20 and the producing wells in the Rock Tank Morrow. And because I can't find them on your display, perhaps we could use Mr. Tate's exhibits.

Am I correct in understanding that you and he are in basic agreement about the way he has drawn his structure map within the confines of the Rock Tank Morrow as we move into Section 20?

A. Yes, sir. The only question, if I might interject, is the presence of that fault, and as I indicated, I think it could be drawn with or without that data, but basically we agree.

Q. For purposes of the question, assume the second fault line in here that separates out Section 18 from 20 is not here.

A. Yes, sir.

Q. Looking at your structure map, I think there is a similar shape to the way you've drawn your structure lines through Section 20, although there's about a 100-foot difference in where you have positioned the contour lines?

A. Yes, sir.

Q. I think he has the minus 6,900-foot line farther to the northwest in the section than you have placed that line?

A. Yes, sir. I think it can be explained that we're not exactly on the same mapping horizon.

Q. And therein lies the difference?

A. Yes, sir. We're basically about 100 foot apart.

Q. Have you examined or were you aware before today of the information available on the well in Section 5 that Mr. Tate discussed this morning?

A. Specifically, being? I was aware of the well but --

Q. Its structural position?

A. Yes, sir.

Q. And the tests that had been made on that well, and the fact that it was not gas-producing but wet?

A. Yes, sir.

Q. Would you agree with Mr. Tate then that you can use a similar analysis of the structure on the data known from this well in Section 5 and determine for yourself geologically that Section 20 should not be part of the Rock Tank Morrow because, in order to be part of it, it's going to be wet?

A. Yes, sir, I believe I even indicated that in my testimony. I think that's correct.

Q. When we look at your structure map within the confines of the display and look at the structural relationship between Section 20 and Section 16, and at the same time look at Exhibit 7, which is your mapping of the reservoir thickness, the Siete location in the southwest quarter of 16 would have given you comparable structural position to Santa Fe's proposed location, and yet significantly increase the thickness at least with the potential for the Morrow for you in

the Section 16 location; would it not?

A. Yes, sir.

Q. The interpretation you've made of the structure in the isopach are dated October 27th. Prior to that date, did you have a different opinion of the structure or the thickness of the reservoir?

A. Actually, yes -- I'm sorry. I did not have a different interpretation, no, sir. No, I did not.

Q. How long have you held this interpretation of the structure in the reservoir thickness and shape?

A. Basically for the first time I became aware of this area, and I would say that's probably been over the last five to six months since I made my initial studies here.

Q. Within the last five or six months, has there been any further drilling or other geologic information by which you could modify or add to the information by which you could refine your displays?

A. No, sir.

Q. Am I also correct in reaching the conclusion that if I compare your and Mr. Tate's structure maps, and if I look at his Exhibit 7, which is the Lower Morrow sand isolith --

A. I see it behind you.

Q. And look at your Middle Morrow Sequence No.

2 -- both geologists will show that the best location in Section 20 is going to be at a point somewhere in the northeast quarter?

A. I found that very interesting. You're correct. And they're different zones even. They're both Morrow, but they're different zones, yes, sir.

Q. Describe for me so it's clear the differences between what you have mapped as the Middle Morrow Sequence No. 2 versus what Mr. Tate has mapped when he has looked at the Lower Morrow sandstone?

A. The Lower Morrow?

Q. Yes, sir.

A. If you could refer to my cross-section A-A', my Sequence 2 lies above the marker that is colored green. That is the marker that is typically used in the area to separate the Upper Morrow and the Lower Morrow, and I believe corresponds with -- it's the same marker that Mr. Tate uses as the base of his middle Morrow shale.

Q. I've lost track of it.

A. I'm sorry. I'll back up. On the cross-section of the A-A' --

Q. Yes, sir, I see the shaded yellow area. The top line represents the separation between Sections 3 and 2?

A. Sequence 3 and 2, yes, sir.
Q. The lower yellow line represents the separation between Sequence 1 and 2?
A. Yes, sir.
Q. Tell me how I mark your display so I know the interval that Mr. Tate has mapped.
A. I believe it's going to be, if you look in the left-hand well, being the Monsanto Rock Tank No. 2, there is a Lower Morrow sand that produces, and it's indeed labeled "Rock Tank Pay with Seven Wells, 47.16 Bcf at Sequence L1." I believe his work in there is basically on Sequence L1 which produces in the Rock Tank Field and Catclaw Draw Field to the north.
Q. That will be what corresponds to Mr. Tate's Lower Morrow Sandstone?
A. Yes, sir, I believe that's correct.
Q. Looking at your cross-section then, what corresponding interval would I find what he has mapped as the Upper Morrow Sandstone?
A. It will be an Upper Morrow, and I think it's the equivalent of the Sequence 4, which is labeled "Productive of the Rock Tank Field."
Q. Have you mapped either Sequence 1, as you've identified -- and it's not Sequence 1; it's the

Rock Tank Field Catclaw Draw?

A. Ll.

Q. Have you mapped that separate and apart to show what that shape and size looks like?

A. I did not.

Q. Have you separately mapped Sequence 4 to see whether or not you have agreement with what Mr. Tate mapped?

A. I have not made a separate map of that either, no, sir.

Q. You've confined your focus of investigation for the Morrow then on this Sequence 2 interval?

A. That's correct.

Q. In looking at both the structure map and the isopach, I don't find all the wells on the cross-section shown on either of those displays.

A. That's correct, sir. The little index map on the bottom of the stratigraphic cross-section A-A' indicates the position of the missing wells from those maps. There is a well up there in Section 6 of 23 25 that is the first well, being the Monsanto Rock Tank No. 2 Well, and then it also identifies the other missing well, which is in Township 23 South, 26 East at A' on that little index map.

Q. When we look at the cross-section then, the

Monsanto Rock Tank No. 2, in Sequence 2 interval, there is a small portion that is indicated with a red shading on the log?

A. I'm sorry. Could you locate that again for me? I was looking at the map for a second.

Q. Yes. The well on the far left?

A. Yes, sir.

Q. In the A position, the Monsanto A Tank No. 2 Well?

A. Yes.

Q. Look in the portion of the log that is shaded between the yellow lines that represents the Sequence 2?

A. Yes, sir.

Q. Within that section, there is a portion of the log that is shaded in red?

A. Yes, sir.

Q. What is that to represent?

A. That was an evaluation of the net porosity interval. In other words, there's more sand there that is porous, and the red highlights that portion of the sand that is recognized as being porous.

Q. Is it the red portion of the log that is mapped on Exhibit No. 7, or is it the total interval within the confines of the lines that shows Sequence

2?

A. It's the red portion. This is a porosity map, sir.

Q. All right. As we move then from left to right, if I were to reconstruct your cross-section and go due east of your cross-section to Section 5 and pick up that Section 5 well, which is on Mr. Tate's exhibit -- it's this Rock Tank No. 3 Well in Section 5?

A. Yes, sir.

Q. If we had picked up that well, do you see any porosity as you've indicated in Sequence 2 for that well?

A. It doesn't appear on these plats, but I believe it did have porosity, yes.

Q. But that well was tested wet in all the Morrow zones within that well bore, was it not?

A. I don't believe it tested all the zones, sir. I don't know that all the Sequence 2 was tested there. If I may consult a larger map here?

Q. Sure.

A. I stand corrected. That well had sand thickness but no porosity. It was a zero in this zone. It was tight in this zone.

Q. So the relationship then of the Monsanto

No. 3 Well in Section 5 in this zone of net porosity within Sequence No. 2, in a well that is structurally lower than the well you've investigated, is tight?

A. That well -- it's tight in Sequence 2 in that well, yes, sir.

Q. The well we've just examined, the Rock Tank Monsanto No. 2 Well, is this well in Section 6, was it?

A. Wasn't it Type Log No. 5.

Q. So this is No. 3 in Section 5?

A. Yes, sir.

Q. Where's the No. 2 that's on your cross-section? That's in Section 6, isn't it? It's this one (indicated)?

A. Correct, sir.

Q. So as we move downstructure in the Rock Tank Morrow, moving toward Section 20 and maintaining that structural position, we'll find a well downstructure within Sequence 2 that doesn't display porosity as you've defined it in the well in Section 6?

A. Section 6 did have six feet of porosity, as indicated, the little red mark on there, but there were no tests in this zone. So that may be marginally thin, and, obviously, I think there was -- there are

better zones. It's one of the main producers in Rock Tank. They're producing down in that L1 sequence, that Lower Morrow, and it's a very good well.

Q. When we look at the next well on the sequence, it's the Hanagan Petroleum North Horseshoe Bend Well in Section 22?

A. Yes, sir.

Q. In mapping your Sequence No. 2, that well, you've mapped it to show 31 feet of net pay?

A. Yes, sir.

Q. When we look at the drill stem information that is shown below the log on that well --

A. Yes, sir.

Q. What does that tell you about the well?

A. That Section 22 well had a DST that included zone Sequence 2 and developed -- rather recovered 9,100 -- 9,512 feet of salt water, which tells us that that zone has excellent permeability, although wet at that location.

Q. No gas?

A. No, sir.

Q. When we look at your interpretation of the structure in the isopach and trying to locate and minimize the risk involved in drilling these high-risk, deep-gas wells, geologically it would be

less risky to drill the southwest quarter of 16 than it would be for any of the locations within Section 20, would it not?

A. One would expect a somewhat thicker sand there, yes, sir.

Q. Have you studied the relationship of these various sand sequences to such an extent in this immediate area to tell me or to rank for me the order of importance in which you actually get commercial producing gas from these various sequences?

A. Basically, the approach that we use, there are a couple of things that one can do, and the people that discovered Rock Tank were drilling down structures and found excellent sand quality, and that's certainly a way to find good gas reserves.

When a basin becomes a little more mature, and the nice structures are no longer available, one is forced to look for stratigraphic accumulations. And one of the key ways to do that is to find a well that had good reservoir quality and try to position another well updip from that location. And that's what we've tried to do with this prospect.

Q. When you talked about the orientation of the spacing units, you told Mr. Padilla that it would be your reference to have a north half and then a

south half?

A. Yes, sir.

Q. That your choice was for the second well to be located in the southeast quarter?

A. Correct.

Q. And that's simply because, looking at your Sequence 2 isopach, that is the quarter section that has the next greater thickness value within the section in the northeast quarter?

A. That's correct, plus I was somewhat happy to see the same relationship hold for Mr. Tate's work for the other two zones that I had not investigated in any kind of detail, and that the southeast quarter looked quite good for sand thickness.

Q. And you remember Mr. Tate's testimony that he was concerned about the significant structural displacement between the northwest quarter and the southeast quarter?

A. Yes, sir.

Q. And, therefore, he proposed as the second well location, a well location in the northwest quarter?

A. I remember him saying that, yes, sir.

Q. And that in fact is what you've done, isn't it?

A. It's amazing in cross-section 20 how close our structure maps are. We have virtually identical relationship. And I would have to agree that, yes, the southeast quarter would be downdip from the northwest quarter.

But also I would have to state, looking at the three maps, now, both our Sequence 2 and the two maps that Mr. Tate has provided, the greater sand thickness can be found in the southeast quarter, and one has to make a value judgment then. And I would like to go -- as he stated, one of the first things you've got to do is, you've got to have thick sand in the Morrow, and I think the southeast quarter has good merit, and I'll take my chances with the structure.

Q. Despite believing the southeast quarter has good value, as the alternative well location, though, because you're precluded from drilling in the northeast quarter, you didn't go to the southeast; you went to the northwest, didn't you?

A. Yes, sir. Of the two, I'd like to do the northeast quarter if I could.

Q. And your second-best choice was the northwest because that's where you went?

A. If you will, I got pushed over there because I couldn't do any in the northeast quarter.

That's where we had to go to find a viable surface location.

The other alternative, I might interject, which hasn't been mentioned yet, would be to drill a deviated hole from the surface location here in the northeast. We don't want to do that with a well of this rank nature in that it would just drive up the expenses on a risk well. So we're trying to compromise with the set of circumstances that we're given in Section 20.

Q. When we look at the topography, there's a couple of locations that you haven't discussed for us within the area shaded on Exhibit No. 9, the original staked location. The first choice, if I will, on the geology, was 660 from the north line and 1,980 from the east line?

A. Yes, sir.

Q. And I believe that we've been told that that was not a suitable surface location?

A. That's correct. If I could offer an explanation, that was our holdings in there, and so we went to our drilling department and said, "We recognize there may be a problem with the topography. Would you tell us, is there a viable location there?"

And our approach to determine that is to

get an engineering firm in there to actually stake the well and make that determination for us with our drilling department present. That was done, and it was deemed as indicated. It's in a bad place. We cannot drill there.

Q. Mr. Hill for Exxon testified earlier this morning that he had examined another staked location where it was 100 feet farther south. It was at 760 from the north line and 1,980 from the east line, and that, in his opinion, that was a viable surface location.

Did you examine with Mr. Barry Hunt of the BLM as to whether or not the 760-1,980 location was an acceptable subsurface location for the BLM?

A. My understanding is that Mr. Hunt's comments had to do with being down in the canyon as opposed to being up out of the canyon. And of those two that were done that day in his presence, being Nos. 2 and 4 on our display, he didn't like either of those.

The alternate that you just made reference to is at approximately the same elevation down in the canyon. So I would just infer he wouldn't have liked that one either, but I don't know that he rendered opinion specifically to that one or not.

Q. To make sure I'm clear on what your understanding of Mr. Hunt's position is, he would not recommend drilling a well down in the canyon area where there was some opportunity for water to flow through there?

A. Correct.

Q. Mr. Hill has testified that he has found a rancher's or a livestock windmill within the immediate vicinity of the well that he thinks is acceptable at the location he's proposed. Did you see that windmill down there?

A. I personally wasn't there; so I don't know. And I don't know if the other guys saw it or not. Sorry.

Q. Has it been communicated to you that Mr. Hunt simply would not recommend drilling down in the base of the canyon area, or that he simply on behalf of the BLM would absolutely preclude the drilling of the well at that point?

A. The way it was phrased to me was that he did not prefer those two locations down in the bottom of the canyon; that if we were to consider something in the north half of 20, that he preferred No. 3, which was done that day, which was up at the top on the canyon rim. I don't know if that meant he would

stop us or preclude us sufficiently. Whatever he meant by "preferred." I'm not sure.

Q. Doesn't that disappoint you as a geologist that the optimum best location for the whole section is up in the northeast quarter, and for some type of topographical constraint suggested by one of the BLM personnel, that we're not going to take our best shot geologically on a high risk well?

A. Well, sir, it's kind of a two-part question there. Yes, I'm disappointed we can't do it in the northwest quarter. Geologically, I would love to do it there. I wish we could have done the 660. I think that would have been fine, geologically speaking, but there's more than the BLM's comment here. There is the safety aspect that our company has made, and I have to honor that.

Q. Have you made the judgment then within Santa Fe not to pursue the locations that you think are the optimum geologic locations?

A. That I think are the optimum?

Q. Yes.

A. Yes, sir. We cannot drill a vertical hole in the northeast quarter. And as stated, that would be the optimum quarter section to go to, and we're not going to do it.

Q. Have you had your engineers make a study of the potential for directional drilling to the bottom hole location that you as a geologist are seeking to get?

A. We didn't actually put the pencil to it. It did come up in discussion, and we decided that with a rank wildcat and with the potential of not all parties that would gain from a well drilled in here participating, that we would have to watch our costs, and we would undoubtedly be carrying a major part of the risk money here, and therefore want to drill as vertically as possible.

Q. If Santa Fe is so safety conscious, why would they go ahead and stake four locations in the bottom of this drainage area and then ask the BLM to come out and look at them if you already had decided they weren't suitable for you?

A. It wasn't done quite in that sequence. The BLM came with us in the staking of the last two, if you will, Numbers 2 and 4, and that day or two days, as the dates indicate, indicated their opinion.

So it's not that we went and spent the money to do it. After we heard this, it was like it all evolved at pretty much the same time. I leaned on them pretty good to try to do what they could in the

northeast quarter. I wanted it there, but we can't do it.

Q. Did Mr. Hunt pass judgment and reject then the alternate staked location, 760 from the north line and 1,980 from the east line?

A. As I indicated, he made reference to those in the bottom of the canyon. Whether he specifically spoke to that stake, I don't know. He did make that reference to Numbers 2 and 4 in the bottom of the canyon.

MR. KELLAHIN: May I take just a minute, Mr. Examiner.

HEARING EXAMINER: Mr. Kellahin, you may. We'll go off the record for a while.

(Thereupon, a recess was taken.)

HEARING EXAMINER: Back on the record. Mr. Kellahin?

Q. (BY MR. KELLAHIN) Let me conclude, Mr. Seiler, with one follow-up question on your company's position with regards to the use of the surface in the northeast quarter. Let's have you identify for us the Exxon-proposed location which comes very close, I think, to your No. 2 point, doesn't it, on this topo map?

A. Yes, sir. Slightly east and just very

lightly, a little bit north of No. 2.

Q. I'm sorry we don't have Mr. Hunt here to talk about the topography and what's going on at the surface, and I understand you've never been out there?

A. That's correct.

Q. If the BLM were to support either your location No. 2 or the Exxon's proposed location 1,500 feet from the north line and 1,100 feet from the east line, would you recommend to your management that they drill the best then geologic location in the northeast quarter, using that surface location?

A. In light of the other objections, I could no longer do that. I would have concern, again, for the safety and then for the cost of building a road down to No. 2 or No. 4 or El. So I no longer can make that recommendation, given those factors.

Q. When we look at the various access into a well location in the northeast quarter, there are existing roads, if you will, into that northeast quarter?

A. Yes, sir. They are indicated on the map as broken. I assume they're four-wheel drive-type roads, but I don't know that for sure.

Q. Do you as a geologist customarily recommend to your management issues about topography and surface

safety for the drilling of locations?

A. Certainly they have to be considered, especially in a case like this. This is kind of rare. I did a lot of my work in Oklahoma, and we don't have these.

MR. KELLAHIN: Thank you, Mr. Examiner.

HEARING EXAMINER: Thank you, Mr. Kellahin.

Mr. Padilla, any redirect?

MR. PADILLA: No redirect.

HEARING EXAMINER: I have no questions for this witness at this time. You may be excused.

Mr. Kellahin, Mr. Padilla, do you have any further evidence to present?

MR. KELLAHIN: No, sir.

MR. PADILLA: No, sir.

HEARING EXAMINER: I assume we're ready for closing arguments, closing statements. Mr. Padilla, I'll let you go first, and Mr. Kellahin, I'll let you follow.

MR. PADILLA: Mr. Examiner, I think it comes down to where this well is going to be located based on 640-acre spacing or 320-acre spacing. I think it comes down to who's done their homework on the actual surface location. There's no disagreement

on the geology as to where is the best place to put this well. Ideally, geologically, the well should be located probably 660 from the northeast corner of the Section 20.

We don't have a lot of conflict with Exxon in terms of geology in terms of actually even whether there ought to be 640-acre spacing or not. However, going back to the surface location and configuration of lay-down proration units or 640-acre spacing, it comes down to where is that initial well going to be.

If that initial well cannot be drilled in the bottom of the canyon, then we have to choose a location that is on the rim somewhere where it is more reasonable, it is more feasible to drill. That location has to be where Santa Fe proposes to drill the well, or it will actually make the location in the northwest quarter. Mr. Seiler has testified that he is satisfied with the initial location there.

In addition, I think the geological witnesses have all testified, with the exception of Mr. Tate -- Mr. Tate still considers structure as being somewhat important, but his primary concern has been with sand thickness, and so has Mr. Seiler's.

If you're going to configure spacing wells out there, the ideal locations are going to be in the

northeast quarter, in the southeast quarter. For that reason, it appears the lay-down units are supported by both Exxon and Santa Fe in the geologic presentations.

Obviously, if the first well is into the northwest quarter, as proposed by Santa Fe Exploration, then the next well ought to be in the southeast quarter. And the only configuration you can really have at that point, from a geologic standpoint, is north-half, south-half proration units.

If we're on 640-acre spacing, a well drilled at the location of Santa Fe does not preclude the further development of the Section 20 by drilling another well in the south half of the southeast quarter of Section 20.

There's very little conflict, I guess, in summary, of the geologic evidence and sand thickness and where this well ought to be. There really is no support for a well being in the southwest quarter of Section 20 at all. So that throws that quarter section out. And if a well cannot be drilled in the northeast quarter, unless you spend more money and do it by directional drilling, then we're bound pretty much by having north-half/south-half proration units.

I don't want to spend too much time in

closing arguments. I think the facts are fairly self-evident, and I think that, again, it finally comes down to the surface location.

Santa Fe has done its homework in this regard. Exxon was out there last Monday. And Exxon was out there last Monday simply because, at the last meeting that Exxon had, they discovered that they maybe better go out and check where they were going to drill their well. The 660 location obviously had not been investigated at all as far as surface topography by Exxon, and we're here under the same basis, or I can analogize this thing to the application that was made for compulsory pooling by Exxon.

I think at this point it's sort of moot to be talking about notice, but Santa Fe really didn't receive this thing until November 14. And you come here, which Santa Fe should have had 20-day notice under the rules. I can say here, we've prepared, we've come, and we've argued, and we can waive notice at this point, but, technically, I guess we could make an argument about that.

We come down to Exxon's Exhibit No. 9 and that fully supports our position on sand thickness. Structure is still a matter of interpretation. If we had reason, should the Division decide that this

Section 20 ought to be developed on 320-acre spacing, then the lay-down units are certainly much more appropriate just on sand thickness alone.

Mr. Duncan's testimony this morning pretty much indicated, if the well is drilled in the northeast quarter in the north half somewhere, that it's actually going to drain that entire north half on 320 or even on 640-acre spacing.

So while drainage is -- some evidence of drainage has been presented, certainly the north half is going to be drained adequately by a well in the northeast quarter or at Santa Fe's proposed location.

HEARING EXAMINER: Thank you, Mr. Padilla.

Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner. I apologize for not doing this awhile ago. I have omitted to submit a copy of a C-101 from the Division files, and I'd like the opportunity to reopen and submit Exhibit No. 13, Mr. Examiner, if I might have your permission.

Exhibit No. 13 is the approved permit for drilling the Siete well in the southwest quarter of Section 16, and it has relevance to us in this case. It's the one we have discussed as being the first alternative location for the Siete well. I'd like to

submit this.

HEARING EXAMINER: Are there any objections, Mr. Padilla?

MR. PADILLA: Well, the only objection I have is its actual relevance. This hearing doesn't consider and shouldn't consider the drilling of the Siete well. That's not the one that Santa Fe is seeking to drill in this case at all.

MR. KELLAHIN: Mr. Examiner, it's relevant in two respects. One, Mr. Williams, who was discussed here today as being the supervisor in the district office who has suggested that the well in 20 be part of the Rock Tank Morrow, in fact, approved on a wildcat basis, the south half of Section 16 for the Siete well which is in the adjoining section, and the Division district office has made the judgment in that case that this well should have been part of the Rock Tank Morrow.

We think it's relevant for that purpose to show you that Sections 16 and 20 really represent wildcat Morrow tests in this area and are not associated with the Rock Tank Morrow 640 gas spacing pool.

HEARING EXAMINER: Mr. Padilla, any --

MR. PADILLA: Nothing further.

HEARING EXAMINER: I'm going to go ahead and admit Exxon's Exhibit No. 13 into evidence at this point. We did discuss it, and I feel it does have a little bit of relevance in this particular matter.

Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

This is a frustrating case, Mr. Examiner. I feel like Alice in Wonderland, and I've just gone down the hole with the bunny rabbit. All the things that Santa Fe has raised to us as reasons why we can't do what is agreed upon between the two geologists as the best geologic solution for the development of the section has some bureaucratic excuse as to why we ought to not do what is appropriate. It galls me no end to have surface excuses being made to justify why you're picking locations when you're trying to minimize the risk in deep gas Morrow wells.

I think it's inappropriate, and I don't think this Division should or needs to make decisions based upon the topography or what the Bureau of Land Management's rules and regulations say about whether or not they'll communitize a section.

Fundamentally, we have agreement between the geologists, but I take issue with Mr. Seiler's geology, very quickly. He has isopached a Sequence 2

interval that is not productive. It has no importance to your decision. He has shown you a zone that in the Hanagan well, for which he has the greatest net porosity shown on his display, the greatest area of red shading, it's been tested. It's a wet well. And yet he maps that as one of the key wells by which he's demonstrating the reservoir thickness as he maps it through the section.

It's critical to make good judgments about deep gas wells in these high-risk areas. But the first judgment you need to make is the separation of Rock Tank from Section 20. Mr. Seiler has concurred with Mr. Tate, and we believe that you procedurally have a sufficient vehicle by which you can exclude Section 20 from the operations of the 640 spacing in Rock Tank.

The only petroleum engineer to testify before you today is Mr. Duncan, and he has told you that in the Rock Tank Morrow, his analysis of the average drainage areas of those wells are significantly less than 640, and that we're nearing depletion of that reservoir. Geologically, you have had shown to you that the closest producing wells in Rock Tank in relationship to Section 20 are wet.

I think you can, with confidence, exclude

Section 20 from the Rock Tank Morrow even though it has physical surface proximity to that pool. It does us no good to space this on 640 gas spacing. That's not the conventional, standard, typical gas spacing for the Morrow. 640 gas spacing is an anomaly. It happened a long time ago. And I don't see any reason justified by the facts of this case to perpetuate that kind of mistake. Nobody wants it, and we think we've given you an opportunity not to require it here. All of our witnesses have indicated to you that there's potential for waste if you set up development of Section 20 with simply one well.

Mr. Duncan has testified before you that there are sufficient gas reserves as he's calculated based upon Mr. Tate's mapping of the geology to support the development of two wells. We need two wells in this section. The question is how to orient the spacing units and how to locate those wells.

Isn't it interesting that the party that was prepared to be involved with Siete in the southwest quarter of 16 at a viable, approved surface location for which has the greatest reservoir values in terms of thickness and structure under Mr. Seiler's geologic interpretation is the one that Santa Fe decided to abandon when they made the judgment to

reduce the risk involved in drilling the well in the area. And they sought to share that risk by moving it over into Section 20 where they only had 40 acres out of 600.

And they want to do it capitalizing on the procedures of compulsory pooling. They want to beat us up with a compulsory pooling stick when they are a minority player in here. And they have the gall to come in here and tell us how we ought to space and orient these wells, hiding behind some topographic exception or exclusion that precludes the drilling of the well at the best location.

The only competent witness that has been before you today is Mr. Hill, and he is the only witness that testified before you that has been on the surface. His job and one of the primary functions he serves for Exxon is to find suitable topographic locations for wells. He's found one. He says it works fine. He says the rancher has got a windmill down in the area. That thing is working, functioning, and it exists, despite Mr. Seiler's concern about humongous boulders rolling down every 100 years in the magic flood. I don't think that's a justification. It's simply an excuse.

If they truly believed what they're telling

us, then where is their drilling engineer to come in here and demonstrate to us that they cannot directionally drill from the closest suitable surface location to the bottom hole location that Mr. Seiler tells us this well ought to be?

If we are the majority interest owner in this section, I think we ought to have the choice about the orientation of the spacing unit at the very least. If that orientation is a north half on 320 spacing, it doesn't matter to Santa Fe. They have no interest in the south half. If it's an east-half orientation, they have no interest in the west half.

We are the ones stuck with trying to develop the second well. And the orientation they have selected for topographical excuses and bureaucratic reasoning behind the BLM judgment on how to preserve their lease position precludes us the opportunity for a second well, and we think that's unfair.

The best geology tells you that Mr. Tate has thoroughly and carefully analyzed this area, and the trade-off between structure and reservoir thickness gives him the best locations in the northeast quarter and the northwest.

And despite what Mr. Seiler has told you,

I think he's made the same judgment. His first location was the northeast quarter. When he found that the -- he says he can't get a topographical location for a surface in the northeast, he didn't go to the southeast. He went to the northwest. His second best location is our second best location. We want the well in the northwest for the second well. He's in agreement with us.

We don't deny Santa Fe the right, even as a 6 percent owner in the section, to force pool us. We think it's premature. We think it's highly risky not to do seismic and develop this in a prudent, careful way, but they've got the right to pool us. You can have 1 percent interest, and you know you can get pooled. You can pool the rest of them.

We're not seeking operations from them. We don't dispute any of the other operations, details, the cost or anything else, but we say we ought to have a majority say in the orientation of the spacing unit so that we're not locked out of what we think is the best spacing unit for the section well, and that's all we're asking you to do for us, and we think it's fair and reasonable, and we would appreciate such an order. Thank you.

HEARING EXAMINER: Thank you, Mr.

Kellahin. I'm going to request both of you submit me a rough draft order.

Also, this brings up another question, and now is a good time to maybe bring it up. I wish I had my legal counsel here to help me out on what I'm asking for, but perhaps was there some sort of precedents in the past in this state in the conservation rules as it applies to the multiple use on federal lands, and the rules and regulations that are put out by the BLM on the surface use, and how well location requirements deal with the conservation of oil and gas. And just like what you mentioned, perhaps they could affect the oil and gas reserves in which is not but to drill in the best location, and not getting the best reserves.

I'd like some sort of a brief from both you gentlemen answering this question. What's happened in the past? How should we go on this? This has been a big concern. I've dealt with four BLM offices, two Forest Service offices, one Bureau of Reclamation office, and two Indian reservations on this same question, day in and day out. I'd like something from you gentlemen from the industry standpoint on this particular issue.

MR. KELLAHIN: We'll do our best, Mr.

Examiner.

MR. PADILLA: I can't say that we'll be able to reach any resolution, Mr. Examiner, as to what decision the BLM will take on a pre-emption or that kind of right, but, certainly, we'll respond to that request.

HEARING EXAMINER: Gentlemen, everybody, get ready, it's coming. Nobody has talked about the archeology. I didn't ask it today.

MR. PADILLA: I can tell you --

HEARING EXAMINER: What you guys are looking at here in Carlsbad, if this was in Farmington, believe me --

MR. PADILLA: I had a client have two drill sites rejected based on archeology within the last month.

HEARING EXAMINER: In the Carlsbad area?

MR. PADILLA: In the Farmington area.

HEARING EXAMINER: What you guys are seeing in Carlsbad is a deep heart compared to what this was if it were in Farmington.

Gentlemen, I appreciate it. If there's nothing further --

MR. PADILLA: Before you close the record, Mr. Examiner, I want to make sure this last exhibit

was Exhibit 12 or 13.

MR. KELLAHIN: Exhibit 13, I think; 12 was the notice we sent. 13 was the Exxon exhibit.

HEARING EXAMINER: If there's nothing further, Case Nos. 9832 and 9797 will both be taken under advisement. I'm going to leave the record open pending the rough draft orders and the briefs.

What kind of a time period, gentlemen? Middle of next month?

MR. KELLAHIN: That would be helpful to me. It would take me that long to put it together. Middle of December.

HEARING EXAMINER: Okay.

MR. PADILLA: Middle of December or January?

HEARING EXAMINER: December.

MR. KELLAHIN: What do we want to use for a date?

HEARING EXAMINER: The 15th?

Thank you, gentlemen.

In that case, hearing adjourned.

CERTIFICATE OF REPORTER

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

I, Deborah O'Bine, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; 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, December 9, 1989.

Deborah O'Bine

DEBORAH O'BINE
CSR No. 127

My commission expires: August 10, 1990

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9772, 9832 heard by me on 29 November 1989.

Michael E. Stogner, Examiner
Oil Conservation Division