STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

12 October 1988

EXAMINER HEARING

IN THE MATTER OF:

Application of Read & Stevens, Inc. for an unorthodox gas well location, Eddy County, New Mexico. CASE 9500

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

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MR. CATANACH: Call Case 9500.

MR. STOVALL: Application of Read & Stevens, Inc., for an unorthodox gas well location, Eddy County, New Mexico.

MR. CATANACH: Are there appearances in this case?

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm Campbell & Black. P.A., of Santa Fe.

We represent Read & Stevens, Inc. I have one witness.

MR. CATANACH: Any other appearances?

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

I'm appearing on behalf of Exxon Company USA. We have two witnesses.

MR. CARROLL: Mr. Examiner, I'm Ernest Carroll of the Artesia law firm of Losee, Carson, Haas & Carroll, and I am appearing on behalf of Hondo Drilling, and we will have one witness.

MR. CATANACH: Can I get all the witnesses to stand and be sworn in at this time?

(Witnesses sworn.)

MR. CARR: At this time we'd call John Maxey.

JOHN C. MAXEY,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

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

A John C. Maxey.

Q Mr. Maxey, where do you reside?

A In Roswell, New Mexico.

Q By whom are you employed and in what capacity?

A I'm employed by Read & Stevens as a petroleum engineer.

Q Have you previously testified before the Division?

A No, I haven't.

Q Would you review for Mr. Catanach your educational background and then summarize your work exper-

ience?

A I graduated in 1980 with a BS in petroleum engineering technology from Oklahoma State University.

I went to work for Chevron in Midland, Texas, in 1980; worked as a drilling representative, responsible for field supervision engineering on all drilling and completion wells that I was responsible for.

In 1981 I went to work for Mesa Petroleum Company in Roswell, handling the same type of responsibilities as a drilling foreman in Roswell, New Mexico.

I was transferred to Amarillo in '83 as a production engineer with Mesa Petroleum. I was responsible for production engineering duties, as well as development -- evaluation of development drilling acreage in the MidContinent and Permian Basin regions with Mesa Petroleum.

I left Mesa Petroleum in 1985 and was a Contract Operations Manager for Foran Oil Company out of Dallas, Texas. I was with Foran Oil Company approximately a year and a half; was responsible for producing property evaluation, on-going operations, and development drilling evaluation, acreage evaluation.

In February of this year I worked a two weeks contract with Read & Stevens and took a full time position with Read & Stevens as a petroleum engineer.

Q Has all of your work since graduation

been in the area of petroleum engineering?

A Yes, it has.

Q What percent of that work has been in southeast New Mexico?

A Approximately 80 percent of my Permian Basin experience has been in southeastern New Mexico.

Q And are you familiar with the Morrow formation?

A Yes.

Q Are you familiar with the application filed in this case on behalf of Read & Stevens?

A Yes, I am.

Q And you're familiar also with the proposed well?

A Yes.

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

MR. CATANACH: He is so qualified.

Q Mr. Maxey, will you briefly state for Mr. Catanach what read and Stevens seeks with this application?

A Read & Stevens seeks to drill an unorthodox location in Section 19 of 19 South, 29 East, to the Morrow formation.

Q Are you familiar with the Division's rules governing the development of the Morrow formation in this area?

A Yes, I am.

Q What are the well location requirements as set forth in those rules?

A The requirements for well spacing in the Morrow in this particular field are 660 from the end line and 1980, no closer than 1980 to the -- or excuse me, 1980 from the end line and 660 from the side line of a proration unit in this field.

Q And what portion of Section 19 does Read & Stevens propose to dedicate to this well?

A The east half.

Q So you are 2/3rds too close to the north line.

A That's correct.

Q On an east/west axis are you at a standard location?

A Yes.

Q Would you now refer to what has been marked for identification as Read & Stevens Exhibit Number One, identify this, and then review the information contained on the exhibit?

A This is a production map of the area

that we're -- we'd like to drill our well, and colored in in yellow is Read & Stevens east half of 19, our lease. This lease illustrates all the various producing intervals in the immediate area. To the north of us we have Exxon's lease. To the northeast of us we have Hondo Drilling and to the east we have General -- General Production Company.

Q Now to the east is the Parkway West Morrow Unit?

A That's correct.

Q And General Production Company is the operator of that unit?

A That is correct.

Q You color coded the wells to indicate what formation they're producing from, is that correct?

A That's correct.

Q And this shows the current ownership pin the area?

A Yes, sir.

Q The area shaded yellow indicates that Marbob is the -- may have an interest in the east half of Section 19. When did Read & Stevens acquire their interest?

A We acquired this lease about a year ago from Marbob.

Q And when does that lease expire, do you

know?

A The lease expires in '92.

Q Do you know what month?

A No, I don't. I know that --

Q How long does Read & Stevens' interest in the lease continue?

A Our agreement with Marbob was to have a well drilled within one year. We have not been able to spud the well as of yet, so we now have a 3-month extension to February 1st.

Q So the year has run and you're now in an extension period.

A That's right.

Q Would you now refer to what has been marked as Read & Stevens Exhibit Number Two and, first, would you identify this set of exhibits and then I'd like you to review each one of them.

First, what -- what is the exhibit?

A This exhibit is a set of four isopach maps of Morrow sand that we feel crosses our acreage and is prospective.

Q Are these all the Morrow sands that are underneath the proposed location?

A Yes.

Q Are there other sands that you do not

believe will be productive in the area?

A Yes. We have three other sands in our regional mapping that we feel that don't even come into consideration.

Q Would you refer to the first page of Exhibit Two and review that for Mr. Catanach?

A The first page is what we have labeled the Morrow C sand. All of these sands are beach and bar type sands with a northeast to southwest trend.

The first sand is the Morrow C sand which we feel crosses our acreage and is produced at -- two wells produce from this sand up in Section 17.

Q Now, in the east half of 19 you have a red arrow. That indicates the subject well, is that correct?

A The red arrow indicates where we would like to drill. You'll notice the location to the south of it represents an orthodox location.

Q So that spot on the 5-foot contour, is that the closest orthodox location?

A Yes.

Q Are you ready to go to the second page of this exhibit?

A Yes.

Q And what is that?

A The second page is the Morrow E sand. It is productive also from the two wells in Section 17. It is productive from a well in Section 18 in the west half.

This is another isopach. All these sands trend northeast/southwest.

Q And on all of these isopachs a triangle is used to indicate a producer in this particular sand.

A In the particular sand, that's correct.

Q All right, would you go to the third page of this exhibit?

A The third page is the Morrow F sand. Again it's productive from two wells in Section 17. It is nonproductive in Section 18.

Q And the final page?

A The Morrow G sand, again productive in two wells in 17; no production in 18.

Q Are these the sand stringers that in your opinion have the potential for contributing commercial production to a well at the proposed location?

A Yes.

Q And why exactly is it that you're proposing at this particular location to drill the well?

A The way the and trends across our acreage, approximately 50 percent through the north half of our proration unit, appears to be productive in these

sands, appears to be prospective in the sands.

We, with the sands trending northeast to southwest and being on the north half of our acreage, we feel we have to move closer to the north line in order to pick up the full amount of reserves that are going to be underlying our acreage.

Q How important is structure in actually making a successful well in the area?

A In the Middle Morrow we are not concerned with structure.

Q But you are moving to this location to reduce the risk of drilling an unsuccessful --

A That's correct.

Q -- well. Would you identify what has been marked as Read & Stevens Exhibit Number Three, please.

A Exhibit Number Three is a paper presented by A. D. James, published in the Southwest Section transactions of the AAPG. It's on the Lower Pennsylvanian Reservoirs of the Parkway Empire South Field Area, particularly the Parkway.

Q And what is the significance of this article?

A The reason this was submitted was primarily to further indicate from an independent source that the trend exists, a northeast/southwest trend exists and that

sands, appears to be prospective in the sands.

We, with the sands trending northeast to southwest and being on the north half of our acreage, we feel we have to move closer to the north line in order to pick up the full amount of reserves that are going to be underlying our acreage.

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Q And what is the significance of this article?

A The reason this was submitted was primarily to further indicate from an independent source that the trend exists, a northeast/southwest trend exists and that

these are a beach or bar type sands that exist under our acreage.

Q Do you have anything else to say in regard to Exhibit Number Three?

A Not at this time.

Q In your opinion can Read & Stevens drill a commercially successful well at the proposed unorthodox location?

A Yes. We can drill a -- we feel we can drill a successful well at the location and have to -- we picked the location to reduce the risk.

Q Do you believe that production from the proposed well should be restricted or penalized due to its unorthodox location?

A In the Morrow you have a lot of channel stands or similar to these beach and bar sands that can come and go from section to section or location to location.

If, in fact we penetrate the same sands that are producing to the -- in the acreage to the northeast, we feel like a reasonable penalty would be in order because we are moving closer to the location.

Keep in mind that we have to assess the penalty whereby Read & Stevens could still drill an economic well.

Q Are you prepared to make a recommendation to the Examiner as to how an appropriate penalty or production limitation might be set?

A Yes.

Q And would you review that for Mr. Catanach?

A We are moving 2/3rds closer to the north line. We are not moving any closer to the east line.

My recommendation on a production penalty would be the addition of those two factors and divide by two for an average penalty of 33 percent, allowing us to produce 67 percent of the combined deliverability for a 7-day period into the pipeline.

Q Now, how -- how will deliverability be determined?

A Deliverability would be determined on a 7-day flow into the pipeline unrestricted.

Q Does Read & Stevens request that a minimum allowable be set for the well if, in fact, production is penalized?

A Yes.

Q And how would that be accomplished?

A We feel that due to the location of the well and the nature of the sands, they're small and they're not blanket sands, we feel like we have to have a minimum

allowable in order to have a floor of what we can -- we know that we an economic well if we meet our projections on the gas reserve, and on the price projections.

Q Are these projections contained in Read & Stevens Exhibit Number Four?

A Yes.

Q Would you like to refer to those at this time and review those for Mr. Catanach?

A Exhibit Number Four is a scenario that we've modeled in an effort to determine a minimum allowable that we would need to have suitable economic parameters or a suitable return on our money.

The model that we used, we estimated approximately 2.7 BCF of gas reserve that we would be able to produce from our well; that figure is based on some drainage that we feel is taking place to the northeast of us right now.

We also did give our economic scenario a pricing escalation scenario. We started prices at $14.00 a barrel of oil and $1.40 per million BTU of gas and escalated at $1.00 a year for 5 years, and then 6 percent for life.

We felt these numbers are a little optimistic right now but we're certainly willing to live with them if we can get a minimum allowable established in order

to drill this well.

What it boils down to, on this economic run in the lower lefthand corner you'll notice some economic indicators. All these indicators are before tax; there's no tax consequences taken into consideration.

We're projecting on a minimum allowable basis of 500 MCF a day flat until the well starts its natural decline for 500 MCF a day, a 23 percent rate of return on our money; a 4.6 year payout; and a 3.8-to-1 on our money on an undiscounted basis.

Q Are these economics in line with industry practice?

A These are in line with minimum economic standards.

Q What is the producing rate that you recommend by set as a minimum allowable on this well?

A The minimum allowable that we recommend is 500 MCF a day.

Q Now, do these figures take into account any cost that might be associated with connecting the well to a gas purchaser or compression or any of those sorts of things that may be anticipating?

A Our cost took into mind drilling and completing a well through the tanks. It did not take into consideration compression or dehydration that may be needed

down the road.

Q It's also premised on a gradual and steady increase in gas prices, is that correct?

A That is correct.

Q In your opinion, even with the minimum allowable is it possible that a well could be drilled by Read & Stevens at this location that would not be commercial?

A If we had minimum allowable?

Q Yes.

A Yes.

Q If the well's production is penalized as you proposed, what effect will this have on Read & Stevens plans to go forward with the well.

A If we are penalized as proposed and do get a minimum allowable on it, we would like to drill it before the end of the year.

Q What if the penalty is imposed without a minimum allowable?

A If we do not get a minimum allowable, we cannot justify drilling the well at this location. It's too risky.

Q And what will happen in that case to the reserves under the north half northeast quarter of 19?

A We feel that reserves will be less --

left in place, there will be waste, and correlative rights will be impaired.

Q Does Read & Stevens request that this application be expedited?

A Yes, we do.

Q And that is because you are now in an extension period on your lease?

A That's correct.

Q Would you just identify for the Examiner what has been marked as Read & Stevens Exhibit Number Five?

A This is an application of Read & Stevens for an unorthodox gas well location in Eddy County.

Q And are these the letters giving notice of this hearing?

A Yes, they are.

Q And is attached to that an affidavit from Campbell & Black confirming that the notice requirements of Division rules are being complied with?

A Yes.

Q Were Exhibits One through Four prepared by you?

A Yes, under my supervision.

Q And can you testify as to their accuracy?

A Yes. Yes.

MR. CARR: At this time, Mr. Catanach, we would move the admission of Read & Stevens Exhibits One through Five.

MR. CATANACH: Exhibits One through Five will be admitted as evidence.

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

Mr. CATANACH: Mr. Kellahin.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Maxey, I believe you qualified yourself as a petroleum engineer.

A Yes, petroleum engineer.

Q The documents, the isopachs shown as Exhibit Two, there was four pages to Exhibit Number Two, were they prepared by you?

A They were prepared by Read & Stevens.

Q And what particular individual at Read & Stevens prepared the Isopachs?

A They were prepared by Alan Jackson prior to obtaining this acreage so we could make a decision, Read & Stevens could make a decision on purchasing this lease.

Q And Mr. Jackson is a geologist, is he?

A Yes.

Q When did Mr. Jackson provide you with these isopachs?

A We had those in our records and I've spoken -- Mr. Jackson is still in Roswell.

Q Is he still employed by Read & Stevens?

A No, he's working for another company now but he has been up to our office to review these maps with me several times.

Q All right, when did you --

A And I fully concur with him.

Q When did you first review these documents with Mr. Jackson?

A I first reviewed these last spring when we were attempting to get a well drilled out in this acreage.

Q Am I correct in understanding it's your opinion and conclusion that the Upper Morrow in this area is not prospective?

A That's correct.

Q And am I also clear in understanding that the Lower Morrow has no potential for production in your spacing units.

A That's correct.

Q When we look at the potential Pennsylvanian production, then, other than the potential of the

four different zones isolated out of the Middle Morrow, there are no other potentials for Pennsylvanian gas production.

A If there were some other sands that developed in the Middle Morrow that were not on -- that did not exist in any of the other wells, there's a further possibility.

Q Your analysis as an engineer, though, is predicated and based upon these four isopachs.

A Yes.

Q When we look at -- well, let's start with C, I guess. When we look at C, you have shaded in the east half of Section 19. In the south half of that half section, or in the southeast quarter, there is a Coquina Well, is there not, Mr. Maxey?

A In the southeast quarter of 19?

Q Yes, sir.

A There's a dry hole, yes.

Q That was the Coquina Well that they drilled that turned out to be a dry hole.

A Yes.

Q Okay, it's called the No. 1 Flagg State, is it not?

A I believe that's correct.

Q And that well was deep enough to

penetrate all the Morrow sections that you've shown on this isopach.

A Yes.

Q And there's no question in your mind that there is no prospective potential for any of these sands south of that well in this spacing unit.

A Of any of the sands?

Q Yes, sir.

A Yes.

Q There's no potential.

A Right. Correct.

Q When we look in the northwest quarter of 19 there is a dry hole in that quarter section, is there not?

A That's correct.

Q That's the Southland Royalty Scanlon Draw 19 State Com No. 1 Well.

A Correct.

Q And that well was also deep enough to penetrate all the Morrow members, was it not?

A Yes.

Q And that well was not commercial in any of the Morrow formations that you're relied on for the location of your well?

A Correct.

Q When we look at the Middle C Zone section on this isopach, Exhibit Number Two, I see on the contour line that you've got the Southland Royalty Well west of the zero line.

A Yes. And we've got the Coquina Well on the zero line on the south side of that contour.

Q And on each side, then, the geologist has run this channel orienting northeast to southwest.

A Yes, I believe so.

Q Is there any information to cause you to believe that it is not equally suitable to take that zero contour line and curve it between those two wells?

A No. This is our interpretation.

Q All the attempts in the Morrow formation in 24, 25 and 30 are all dry holes.

A In the Middle Morrow.

Q Okay. In the F sand, do you have that isopach there, Mr. Maxey?

A Yes.

Q In the F sand we also have in the Coquina Well the zero contour line. None of that sand was present in that well, is that --

A That's correct.

Q -- what this shows?

A Yes.

Q The zero line for the F sand, though, is north of the Coquina Well. Do you know why that was contoured that way?

A Again that is our interpretation.

Q Well, what's the basis for the interpretation of not putting the zero line through the Coquina Well?

A A lot of times when we have a zero isopach we'll see a very minute trace of sand, or a possiblity that it exists right there.

Q When we go up to the Southland Royalty Well in the northwest quarter, there was six feet of net sand in this F zone.

A Yes. It is noncommercial.

Q When you mean noncommercial, what did it test? Was there -- was there a separate test out of that F zone?

A In that particular well there was a DST that did not test.

Q The DST was across the gross Middle Morrow zone?

A Right. Right. It was -- it did not isolate this sand.

Q But they did drill stem test the total Middle Morrow section --

A Yes.

Q And it was noncommercial?

A Yes.

Q By noncommercial, did it test anything?

A Well, by noncommercial, it would not have been enough -- an economic well to run pipe and set it.

Q I understand. Do you have information to tell us what the DST test results were?

A No, I don't have any with me.

Q When we look at the E sand isopach, the Coquina Well had zero; the Southland has 2 feet; again that zone was drill tested and did not result in commercial production.

A Right, it will not produce in commercial quantities from that sand.

Q In response to Mr. Carr awhile ago, you indicated that you believe the east half of 19 was approximately 50 percent perspective?

A Yes.

Q And how do you reach that opinion?

A Just by viewing the map we have greater than 50 percent of our acreage covered by our isopach, the way we have mapped it in.

Q Okay, when we look at the G sand isopach

there is much more than 50 percent on the G sand that is not prospective, is there not?

A Yes, that's in that particular sand alone.

Q And when we look at the E Sand, then that's, I'm going to guesstimate, probably 2/3rds prospective?

And what you've simply done is taken all four of these and eyeballed them together and said, well, I've got about 50 percent of this spacing unit that is prospective?

A Well, I did do some planimetering also and from our location it appears that it calculated that there were 7,400 feet -- acre feet of reservoir under our orthodox location and approximately less -- greater than 50 percent of that was in the north half of our section.

Q When you planimetered that area, were you taking the gross Middle Morrow sand?

A I was taking each sand.

Q How many total net thickness in feet did you get when you planimetered it?

A The average thickness?

Q Yes, sir.

A There's over 30 feet.

Q And then within your spacing unit you

planimetered that acreage and you had 740 what?

A I had 7,400 acre feet planimetered from our orthodox, or excuse me, our unorthodox location.

Q And did you make further engineering calculations to determine the estimated gas in place within the spacing unit using that contour?

A Yes. I used, from the unorthodox location, I used -- and on the well -- the field is on 320-acre proration units. I used a 320-acre drainage radius within the confines of our zero isopach contours, from zero to zero.

And that is the acre foot of reservoir that I gave you.

Further, from that we calculated 2.66 BCF of gas remaining and we based that on some drainage that we feel is occurring right now from the Hondo Drilling Well in the southwest of 17.

Q There's no doubt in your mind that the mapping of these four zones in the Middle Morrow extend up into the Exxon acreage and into the Hondo acreage. That's the interpretation here, isn't it?

A Right. They do exist in -- you'd have to define the quantity that exists.

Q In defining that quantity, have you confined yourself to determining the gas in place contained

within the isopach area within the east half of 19?

A No. The east half of 19 -- the isopached area within the east half of 19, no, I didn't do that.

Q You've not --

A No, I did not planimeter that, no.

Q You can't give me the gas in place number for that area.

A Not under our proration unit.

Q Okay. You've not taken a 320-acre assumption of drainage.

A That's correct. That's -- we took a 320-acre assumption of drainage, because that was what the well is -- what the field is spaced on right now, and based on what we've seen in the Hondo Drilling Well in the southwest, we had a shut-in tubing pressure of 3300 psi when that well was initially drilled.

Ten years later the well in the north half of 17 had a shut-in tubing pressure of 2200 pounds when it was completed in the same sands as the Hondo Drilling Well was in the southwest.

Q But we know from the isopach that there is 40 percent or 50 percent of your spacing unit that's not going to contribute to that gas reserve.

A To whose gas reserve?

Q Yours.

A I don't understand your question.

Q On your isopach you've assumed -- well, in your calculation you've assumed 320 acres.

A That's correct.

Q Your isopach shows less than 320 acres productive.

A Yes, directly under our acreage.

Q To get the 2.7 or 2.6 BCF of gas, you're going to have to get that gas outside your spacing unit.

A Yes, that's correct, and that's the way all of these wells, if you assume 320 acres, they cross their boundaries, their lease boundaries.

Q How much of that gas, have you quantified how much of that gas is going to be gas produced off of your spacing unit?

A No, I have not and this -- and because the pressure drawdown from the Hondo Drilling Well over the last ten years has been from southwest to -- to the well, and from the northeast to the well.

Right now the pressure differential is from our acreage to the Hondo Drilling Well, as we see from the well in the north half to the Hondo Drilling Well. We feel like that if we drill where we're located right now, we're just drying to protect ourselves and our correlative

rights.

Right now, if we drill a well where we are, we feel that the majority of gas produced will come from the higher pressure at the southwest part of our acreage rather than from the northeast.

Q The displays in Exhibit Two show a red arrow to a circle and that's the unorthodox location?

A Yes.

Q Is it -- am I clear to assume that the dot to the south looks like it's 1986 60, is that the closest standard location?

A Yes.

Q So we can draw a comparison on each of the isopachs between the unorthodox location and the closest standard location?

A Right.

Q And you would not recommend the drilling of this well in this spacing unit at the closest standard location?

A No.

Q In making your recommendation, Mr. Maxey, for a penalty factor to apply to this well, you have simply used the distance to the north line plus the distance to the east line, divided by 2 and come up with 1/3rd, I guess.

A Yes.

Q All right. That factor, or that penalty formula, does not propose to include any penalty for the fact that a significant portion of this southern end of your spacing unit is not going to contribute to your well.

A That's correct.

Q You've made an economic analysis to determine what, in your opinion, is a minimum rate below which the penalty drops off and you have recommended to the examiner half a million a day, I believe.

A Yes.

Q What were the results of that economic analysis, I think you told me that showed under this scenario a 23 percent rate of return, was it?

A Right.

Q And it would take 4. 6 years to pay out at that projected minimum rate?

A Yes.

Q And what were the other results based upon that scenario that you thought were important?

A Well, the economic parameters in general are what I felt was important to determine whether we could drill a well and make a suitable return and obtain payout in a suitable amount of time offset the risks we're going to take.

Q And in assessing that 23 percent rate of return was that you found acceptable?

A A minimum, yes.

Q And 4.6 year payout --

A Minimum.

Q -- and were there any other results of that calculation that were important to you?

A Well, the 3.81 on our money --

Q 3.81.

A -- is approaching a minimum.

Q That means for every dollar invested you get 3.8 dollars back?

A That's correct.

Q Did you run that economic scenario using 250 MCF?

A No, I did not. We're approaching --

Q (Not clearly understood) MCF.

A No, I did not. We're approaching a minimum rate of return right now.

We would like to see a 20 percent minimum rate of return but just taking into consideration we have a 4-1/2 year payout, 23 is as low as we want to go.

Q Have you run any other economic analysis on any of the other Morrow wells in this immediate area?

A No.

Q You don't know how this economic analysis compared to the actual performance, then, of any of the Morrow wells in the area?

A Well, the actual performance of this well to any other well, it is not similar, because we're talking about a penalized well as opposed to wells that are operating without a penalty.

Q Let's talk about how we're going to handle the penalty. You've got 1/3rd of a penalty or 1/3rd of an allowable, if you would, 2/3rds of an allowable.

A Right.

Q This is not a prorated gas pool, is it?

A No.

Q We've got to figure out how to set an allowable for the well and you propose to do that by running a test and determining the deliverability of the subject well?

A Yes.

Q When we get the deliverability of that well, this will be on an unrestricted flow condition?

A Into the pipeline.

Q The calculated absolute open flow of the well, is that what we're talking about?

A No, we're talking about a deliverability test after we're connected to the pipeline, unrestricted to

the pipeline a their pressure. In effect what we're talking about is a back pressure of 6-or-700 pounds on the pipeline.

Q Are all these wells in this immediate area connected to the same pipeline?

A I do not know.

Q Who will be the pipeline purchaser for this well?

A We have not -- we are -- we've negotiated -- are negotiating several -- with several purchasers to determine who will be the purchaser.

Q All right. Have you determined who will be the pipeline?

A Oh, no, that's the same thing.

Q Well, sometimes it is the (unclear).

A Yes. I'm sorry.

Q Have you determined what the current deliverabilities are for the other Morrow wells in the immediate area?

A Well, I've determined that the well in the north half of 17 is undergoing what appears to be a lot of curtailment. We have peak seasons when it produces and then we have off seasons in the summer when it produces.

The well in the southwest of 17 does not appear to have undergone any curtailment and right now it's

producing 600 MCF a day.

Q That's the Hondo Well?

A The Hondo Well.

Q The Hondo Well is currently producing 600 MCF a day?

A Yes. It's been a very natural decline ever since it was completed in 1973.

Q That well is -- that well is at a standard location with a south half dedication in 17?

A Yes.

Q And that well is not penalized or reduced in terms of its location?

A No.

Q Have you proposed that with your well at its location 2/3rds closer to the end line than permitted, with only 50 percent of the acreage productive, to be able to produce at a minimum rate of 500,000 cubic feet of gas a day?

A Yes. That's what I'm proposing because we have just purchased this lease. We've been trying to get this well drilled and we -- there has not -- we have not had any success at getting the thing drilled.

If we would have been the -- had had this lease from inception, or the ones that had purchased it originally, I'm insinuating if we were Marbob, Read &

Stevens, we have a very prudent operations as far as monitoring our production in any offset leaseholders, and we feel like along time ago we would have been trying to get a well drilled here. It may have been at a standard location, I don't know, that's a little hypothetical, but because of the lack of pressure drainage that we've seen now, because it's obvious that this well has been draining our location ever since we saw the pressure depletion in the well in the north half of 17 after it was drilled.

Q Mr. Maxey, let me make sure I don't misunderstand you.

A Okay.

Q Are you proposing this penalty in order to compensate Read & Stevens for what you anticipate to have been past drainage that's occurred on your acreage by producing the Hondo Well?

A No. I'm proposing this because of the interpretation we have of our sand and the risk that we're going to undergo in drilling this well for the reserves that are left on the north half of our acreage, what reserves are left.

Q And using your penalty as compared to the Hondo Well with a minimum allowable will let you produce only 100,000 cubic feet of gas less than the Hondo Well.

A Right. Now, yes, the Hondo Drilling had 10 -- 10 years of production, that's correct.

I feel that that will give us a minimum rate of return and protect everybody's correlative rights involved.

Q Have you done any drainage calculations on the Hondo Well to see based upon this geologic interpretation what the area of drainage is for that well?

A I have not. Just based on the pressure depletion in the well in the north half, I feel it's more than 320, and it's also going to be along the axis of the sands.

MR. KELLAHIN: Nothing further, Mr. Examiner.

MR. CATANACH; Mr. Carroll.

CROSS EXAMINATION

BY MR. CARROLL:

Q Mr. Maxey, you've stated that you've had experience with respect to the Morrow formation in southeastern New Mexico. How many wells have you actually drilled and dealt with in that formation in southeastern New Mexico?

A Are you talking about just drilled?

Q Well, let's start there.

A Okay, I'd say probably 30 wells, approximately 30 wells.

Q Were these wells for Mesa Petroleum?

A Some of them were. Some of them were for Chevron and some of them were with Foran Oil Company.

Q With who?

A Foran Oil Company, and with Read & Stevens, we've drilled Morrow wells, also.

Q Your recent experience with Morrow wells, has that been with Read & Stevens?

A Well, I don't know what you mean by recent, but my experience has been for the past eight years. I've had experience with the Morrow.

My most recent experience, yes, we have drilled some Morrow wells while I've been with Read & Stevens.

Q In this area?

A In southeastern New Mexico.

Q In this area where we're proposing to drill this particular well?

A No, this will be the first one that I've drilled with Read & Stevens in this area.

Q The wells that have been drilled in this particular area, isn't it true that they've all been drilled on standard or orthodox locations?

A To my knowledge.

Q And this is the first one -- or would be the first unorthodox location for this particular area, would it not?

A To my knowledge.

Q The Morrow in this particular area is quite erratic, is it not?

A Somewhat. We have a very good trend set up from northeast to southwest. That's not to say that the sands don't come and go.

Q The -- this trend that you keep talking about, the northeast to southwest, what are you -- what wells are you basing that on?

A That's -- that's based on our regional geology, and as I said before, I've brought the article into evidence because it was something that came to my attention a few weeks ago that confirmed what we have believed since we purchased this lease.

Q Well, Mr. Maxey, what -- what do you feel is the degree of accuracy in mapping the Morrow in this particular area?

A Well, we feel we've got a very good degree of accuracy in this field, in this particular 9-section plat, because we have a lot of control through the Morrow.

Q Well, when you say good degree, are we talking about 25 percent degree, 50 percent, 75 percent, or what?

A Well, in this particular case in 9-sections, most Morrow production in New Mexico is on 320-acre spacing and we have two wells in each section in nearly all 9 sections.

So I mean we couldn't get any better, I don't believe, when we're on 320-acre spacing --

Q Well, --

A -- as far as control.

Q First let's get back to my question, degree of accuracy. We find, too, in Section 19 we've already seen two dry holes drilled to the Morrow. Apparently there is some problem with the degree of accuracy in predicting where you're going to find Morrow production, isn't that true?

A That's correct in any situation where you're prospecting for oil and gas.

Q All right, and do you have a number that you could place on your -- what you feel like your degree of accuracy is in this particular case?

A Well, in this particular case I have to say I feel our accuracy is 100 percent.

Q All right, and your accuracy, then, is

determined by your control, is that correct?

A That's correct.

Q All right, now, in using your exhibit that maps the Morrow, Middle Morrow C Sand, you said that there is 10 feet, you're predicting 10 feet of pay with respect to this proposed location of yours. What well control are you using to predict that 10 feet?

A We're using the well control all the way through sections -- well, in the 1, 2, 3, 4, 5 sections. We're using all the well control that we've got in 5 sections.

You'll notice in Section 17 we have 20 feet of pay and 5 feet of pay in the well on the north half of the south half. We have the trend established from our regional geology, and we have the dry holes that we feel like that we have a very good opportunity of drilling that sand within the dry holes (inaudible.)

Q Well, at best, though, the -- you are predicting that this sand will thicken. There is -- you have actually no well or control which shows that that sand would thicken after you get below or south southwest of the Hondo Well, do you?

A No. We feel that it's a trend; it's trendology (sic).

Q So it's a geologist's best guess, then,

is that correct?

A No, it's a geologist's best estimate.

Q Mr. Maxey, you made the statement a minute ago that it is obvious that the Hondo Well is draining Section 19.

A That's my opinion, yes.

Q Or excuse me, the Section 19, the gas reserves under there. What do you base that statement on? What -- what is so obvious about it?

A Repeat your question? Sorry.

Q Okay. You made the statement in answer to a question propounded by Mr. Kellahin, that it is obvious that the Hondo Well is draining this acreage in Section -- in the east half of Section 19.

What I was wondering is just exactly what told you that was so obvious? Did you have some pressure tests, pressure results, from any of these wells or is it just from the basis of these geologic interpretation that you draw that one conclusion?

A No, it -- well, it's a combination. We see the four sands that I've outlined are producing in the two wells in Section 17. All four sands have been perforated in both wellbores, and when the sands -- and they were all four perforated upon original completion.

In the well in the southwest quarter of

17 we had initial shut-in tubing pressure of 3300 pounds upon completion.

In the well in the north half of 17 we're assuming or our geology, what our geology shows us, is that this sand is continuous from the well in the south half to the well in the north half.

When we drilled the -- or when the well was drilled in the north half, ten years later they had a shut-in tubing pressure after completion, and it's when they had their AOF, did their AOF, a shut-in tubing pressure of 2200 pounds, so there was 1000 pounds less shut-in tubing pressure on these two wells, the difference between the two wells from the south to the north and with those four sands the only sands open.

Q Mr. Maxey --

A That lead us to our conclusion of drainage.

Q Mr. Maxey, the well, the Southland Royalty Well in Section 19, have you -- did you look at the tests that were run on that particular well, what the bottom hole pressure was when it was initially drilled (unclear)?

A In 19?

Q In 19, that Southland Royalty Well.

A No, I have not seen any bottom hole

pressure.

Q All right, did you look at any drill stem tests or anything such as that?

A I have seen some drill stem tests.

Q And what did those drill stem tests reflect?

A The test in the south half of 19 reflected about 500 pounds in the Middle Morrow, but there was not any pay.

Q Do you know what the -- what the drill stem test -- what kind of test they actually showed?

A There was 500 pounds with a few hundred feet of drilling fluid recovered, and that was all that my records indicate from PI.

MR. CARROLL: May I have just a moment?

Mr. Examiner, I have no other questions of this man, this witness.

MR. CATANACH: Mr. Carr?

MR. CARR: No redirect.

CROSS EXAMINATION

BY MR. CATANACH:

Q Mr. Maxey, have you calculated in any way how much sand you think you would need to make an econ-

omic completion in this -- in this well?

A Well, I think the economics of it is somewhat dependent upon the performance of the well, well (unclear). In our rate of return calculation that's -- the 2.7 BCF that I calculated, rate of return fluctuates, it's a time function, and it fluctuates with the performance of the well, how fast you recover reserves, so in looking at this prospect what we are proposing is a minimum penalty and we wanted to look and see what -- what kind of minimum penalty we needed with the reserves that we have estimated, calculated. We weren't looking for a minimum amount reserves, we just looked at the science we had and made the calculations to determine what kind of reserves we felt like we had at the location, and then needed to see what kind of minimum floor we need so that we can drill the well and obtain minimum rate of return.

I might add that the run we made is based on a lot of assumptions. We're basing it on a pricing escalation, and it may not happen like that. It may not be -- we may not see prices increase for another year or two, and who knows what's going to happen to oil.

So we feel like we've been very fair as far as -- I do, as far as the economics that I've run in trying to establish a minimum base that we need to have to drill this well. I just don't -- if we do not drill this

well, I feel like there will be waste and correlative rights will be damaged due to the fact that we do have some depletion of our acreage from the well to the northeast, and if we don't drill a well on our acreage, I believe there will be reserves left in the ground.

Q Of the four zones you have plotted here, is there one of these zones that's predominantly the major producer?

A There's no way -- all four zones were completed at the same time in Section 17 in both those wells. I don't have any record of individual sand tests. So it's a commingled situation for the four sands.

Q The reason you said you were moving north was to reduce the risk and move toward what you think is the greater amount of net sand, is that right?

A That's correct. We would like to make sure we're in a commercial reservoir if we're going to take the risk on drilling this well, because we feel like we have commercial reserves under our acreage.

Q Okay, on your -- on two of your maps you show 5 feet of sand in the Hondo Well in two of the zones. You don't think that that will be a -- at a standard location in Section 19, you don't -- you don't think that would be a good place to drill?

A No, sir. We can't take the risk at that

location.

MR. CATANACH: That's all I have. The witness may be excused.

MR. CARR: That concludes our direct presentation.

(Thereupon a recess was taken.)

MR. CATANACH: We'll call this hearing back to order and turn it over to Tom Kellahin.

MR. KELLAHIN: Mr. Examiner, I have two witnesses to present on behalf of Exxon. My first witness is a geologist, Bill Tate.

WILLIAM (BILL) TATE,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

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'm a Senior Geologist with Exxon Corporation in Midland, Texas.

Q Mr. Tate, as a geologist have you pre-

viously testified before the Oil Conservation Division?

A No, I have not.

Q Would you take a moment and describe first of all when and where you obtained your degree in geology?

A Yes. I earned a Bachelor of Science degree in geology from Oklahoma State University in 1982.

Q Subsequent to graduation in 1982 with a Bachelor's degree, did you obtain any other degrees?

A Yes, sir, I did.

Q And what did you obtain?

A I earned a Master of Science degree, also in geology, from Oklahoma State University, in 1985, and did extensive thesis work on sandstones such as -- similar to the ones that are found in southeast New Mexico in the Morrow formation.

Q After obtaining your Master's degree in geology in 1985, would you give us a summary of what has been your employment experience as a petroleum geologist?

A I was employed by Exxon Corporation in June of 1985. Therefore I've worked for Exxon for approximately about the last three and a half years. My duties have consisted of detailed mapping projects, both in west Texas and in southeast New Mexico, dealing with both clastic environments and carbonate environments.

In the past year my primary duties have been mapping the Morrow sandstone on a regional and on a local scale throughout all of Eddy County, New Mexico.

Q Have you conducted a geologic study of the Morrow formation that is in this immediate area of Read & Stevens application in Section 19?

A Yes, I have. I've gathered all permanent information and developed a detailed mapping, geologic mapping analysis of the area, and I have recommendations based on that.

MR. KELLAHIN: At this time, Mr. Catanach, we tender Mr. Tate as an expert petroleum geologist.

MR. CATANACH: He is so qualified.

Q Mr. Tate, let me direct your attention to what we've marked as Exxon Exhibit Number One.

Before we discuss the display itself would you simply identify the type of information you've had placed on this exhibit?

A Yes, I will. Exhibit Number One is a Morrow production map for the Turkey Track area, the area directly surrounding Read & Stevens' proposed unorthodox Morrow location.

Q Included on this map, which first off is

on the scale of one inch equals 2000 feet, are the wells that have penetrated the Morrow formation.

Q Are these all the wells in the area that are of immediate concern to you as a geologist in reaching your geologic opinions?

A Yes, they are.

Q This is your localized well control information for mapping your geology?

A Yes, it is.

Q And have you done that mapping?

A Yes.

Q Based upon your geologic studies, Mr. Tate, do you have an opinion as to whether or not the correlative rights of Exxon as the operator in the east half of 18 are going to be adversely affected if the Division approves the application of Read & Stevens for this unorthodox well location in 19?

A Yes, I do.

Q What is your opinion?

A My opinion is that Exxon has significant Morrow reserves that must be protected on the east half of Section 18, the Exxon lease which directly offsets Read & Stevens' proposed unorthodox well location, which on Exhibit Number One is noted by the blue dot.

The Exxon New Mexico DC State No. 1 Well

was drilled through the Morrow section and encountered several reservoir quality sandstones in both the Morrow and in the Atoka section. The well is current producing in paying quantities in the Upper Penn formation. As prudent operators of this lease, Exxon will recomplete this well to the Morrow reservoir sands which were encountered, once the well is no longer capable of producing in paying quantities in the Upper Penn.

Exxon cannot compete with Read & Stevens' unorthodox well location since the Exxon New Mexico DC State No. 1 is located in the northern part of the east half of Section 18.

In addition, if Read & Stevens' unorthodox well location is approved, it would result in an unfair advantage for Read and Stevens against not only Exxon, but other offset operators. To date, as already mentioned, all wells in the immediate area that are located on this production map, will drill at standard Morrow locations; therefore Exxon would prefer that Read & Stevens's unorthodox well location be denied; however, if it is approved, then the well should be penalized in an appropriate manner to address the drainage that will occur from offset leases.

In addition, I will demonstrate in exhibits to follow that Read & Stevens' unorthodox well location is not justified geologically. In fact, they have a

standard Morrow location on a spacing unit which actually would encounter more Morrow sandstone reservoir quality rock.

And, finally, I disagree with Read & Stevens' interpretation of major sand trends that they have developed in this area and I will -- and I will discuss Exxon's geologic interpretation, which in my opinion, is the correct interpretation based on the facts that I will discuss.

Q Let's use Exhibit One, Exxon Exhibit One, as a guide by which we can refer to the wells and the names of the wells, and I take you now, sir, to Exhibit Number Two, which is the type log for your well in the northeast quarter of Section 18?

You've told us earlier that this well was drilled through the Lower Morrow sands and that it is currently completed and producing out of the Cisco formation?

A The Upper Penn. It's prorated as the Upper Penn.

Q So below the Upper Penn, then, we find the beginning of the type log when we look at the top of the Atoka?

A Yes.

Q All right, take us from the top down and

show us what in your geologic opinion are the potentials for production of this well in the Atoka and the Morrow formations?

A Okay. The sands represented on this type log, are again from the Exxon DC State No. 1. The type log, first off, is a gamma ray compensated neutron -- compensated density dual spaced neutron log, the gamma ray on the left and the neutron density porosity occurs on the right.

I've highlighted the reservoir sandstones which will be completed in this well, again, once it is unable to produce in paying quantities in the Upper Penn.

Exxon will complete this well in the Atoka sandstone zone that is highlighted; an Upper Morrow sandstone zone approximately halfway down on the type log; the Middle Morrow sandstone zone; and finally, an attempt will be made in the Lower Morrow sandstone zone.

Another important marker on this well, type log, is the Middle Morrow shale marker which is also noted on this map and will be discussed in a second in more detail.

Q In making a geologic study of this specific area, Mr. Tate, was one of the first things you did was to prepare a structure map on the Morrow?

A Yes, it was.

Q And what did you use for a marker for controlling your contours for the structure map?

A The Middle Morrow shale marker, which I just mentioned.

Q And that's the one shown on the type log.

A Correct.

Q Let me show you Exhibit Number Three, which is the structure map. Would you identify and describe this exhibit for us?

A Yes.

Q Exhibit Number Three is a structure map again, constructed on the base of the Middle Morrow shale marker. The scale of this map is one inch equals 4000 feet; one-half the scale of the production map exhibit.

The contour interval for this structure map is 50 feet.

The important note to make on this structure map is that structure does not justify Read & Stevens' proposed unorthodox well location.

Q What causes you to reach that opinion, Mr. Tate?

A That opinion is based on, first off, looking at the relationship of the three colored dots on

this map, the unorthodox location and then Read & Stevens' nearest downhole locations, that they are structurally comparable to the DC No. 1 Well, the Exxon Well, in the east half of Section 18, or more importantly that the -- one of the better wells in the field, located in the south half of Section 17, the Hondo Drilling well, is one of the better producing wells in the field at a structurally lower position.

Q The closest standard location to the eastern boundary of Section 19, the dot to the left?

A Yes.

Q That's the one that is on structural strike with the Hondo Well, approximately?

A I'm sorry, repeat that, which --

Q Yes, sir, I'm trying to identify which of the two standard locations, or the two orange dots, you're referring to as we move up the contour line at the -7850 interval?

A Right.

Q And moving up, then, to the Hondo Well, which is shown at a -7862.

A Right.

Q Your conclusion is what, sir?

A That both locations are structurally -- both nearest standard locations are structurally comparable

to the best well in the field.

Q Let me direct your attention now to the Lower Morrow productive zone in this immediate area. We've marked that as Exxon Exhibit Number Four.

Do we find any Lower Morrow producers in this immediate vicinity, Mr. Tate?

A In the mapped area, we do.

Q All right, and where do we find those wells?

A Three Morrow producers that are completed in the Lower Morrow productive zone are noted with a green square and are located -- are located on the northwestern or upthrown side of a fault that has been annotated on this map, which was based on the structure which was previously shown.

Q Do you concur with Mr. Maxey that for the Read & Stevens well at an unorthodox location, that there is no potential for Lower Morrow gas production in (unclear) spacing unit?

A Yes, I do.

Q Is there any relationship between how the map -- the contour is shown on Lower Morrow as compared to the Middle Morrow or the Upper Morrow?

A Yes, there is a relationship.

Q There is a relationship? What is that

relationship?

A The relationship between the Lower Morrow sand trends that have been developed in this area, both in this local area and in a regional area, are quite similar to the trends that are well established in the Middle Morrow productive zone, which is highlighted on the type log.

However, the Upper Morrow sandstones, sandstone zone, is indirectly related as far as -- as far as to the sandstone trend that is developed.

Q Let's go to the Middle Morrow map, Mr. Tate. It's Exhibit Number Five. Would you identify and describe that exhibit for us?

A Yes, I will.

Q Exhibit Number Five is a gross sandstone isopach map of the Middle Morrow productive zone, which is highlighted again on the type log. The scale of this map is one inch equals 4000 feet; contour interval is 10 feet.

What I've defined in this area is a northwest to southeast trend, dip oriented, channel trend that's well established in the Middle Morrow sands.

In addition, based on this exhibit, Read & Stevens unorthodox well location cannot be justified based on this analysis. In fact, a standard location would be -- one of the two standard locations would be in a bet-

ter geologic position.

Conversely, if the Read & Stevens Well does encounter reservoir sand, it is most likely that it will be draining those reserves from sands that are thicker offsetting the (unclear).

Q Let me show you what was introduced by Read & Stevens as their four parts isopach, Exhibit Number Two. Here's a set of those for you, Mr. Tate.

There appears to be a significant difference between how Mr. Jackson has mapped those for Read & Stevens and how you have mapped the Middle Morrow for Exxon.

A Yes, there is.

Q What is the basis of difference between you and Mr. Jackson?

A The differences are that I've interpreted the Middle Morrow sands as dip-oriented, or otherwise northwest to southeast trending channels, while Read & Stevens has interpreted these sands from southwest to northeast, as a southwest to northeast trend of marine influenced shoreline sands.

Q This is not the first opportunity you've had to see the geologic presentation of Read & Stevens with regards to their interpretation, is it?

A No, it is not.

Q You've seen it on previous occasions?

A Yes, I have.

Q Did you agree with it then?

A No, I didn't.

Q Do you agree with it now?

A No, I don't.

Q What's the basis for the difference in your believe that your opinion is correct?

A In comparing Read & Stevens' interpretation versus Exxon's geologic interpretation, it's my opinion that Exxon's geological interpretation is correct. My opinion is based on several facts.

First off, on this local scale mapped area, the sands in the Middle Morrow productive zone have characteristics which are shown indicative of the channel spill environment. They include basal and top contacts which are relatively sharp with the underlying and overlying shale units. This has been exhibited, these characteristics have been exhibited in the wells in this local area.

In addition, within distinct sands within this mapped area, the log signatures showed generally a decreasing log character, which also is characteristic of a channel environment.

In map view, obviously, by the way I've

mapped it here, I've interpreted -- interpreted this as a channel environment based on the control, where I see relatively thick sands developed in the northwestern portion of the area, the central area, and continuing down to the southeast portion, associated with no more producers both in the northwest trending to the southeast. I believe this strongly suggests that the environment is in fact a channel environment.

In order to truly get an understanding on the geology within the local area, and also -- you also must have a thorough understanding of the regional geologic trends established.

I've taken into account the exhibit that was presented earlier by Read & Stevens by A. D. James. I was well aware of that exhibit more than a year ago and I strongly disagree with that interpretation.

I've conducted a regional mapping project throughout the majority of Eddy County within the last year, both up dip and down dip of this local area.

I've seen the kind of characteristics which I've previously described that are observed in this area, the sharp contact. In addition, I've looked at cores in the regional area, also, which are strongly indicative of the channel environment.

My regional map trends both up dip and

down dip are established as northwest to southeast dip oriented channel system in this stratigraphic position.

Read & Stevens' interpretation again is southwest in this local area, which is southwest/northeast marine influenced shoreline sand. It is an environment in a sand trend which is well documented and established in this stratigraphic position 15 to 20 miles down dip to this area.

This productive shoreline sandstone trend in these Middle Morrow producing sands are prorated, the dominant producers are prorated in the South Carlsbad Morrow Field and the White City Morrow Field.

Therefore, my opinion is that the channel environment is the correct interpretation in this area, both looking at the local scale and the regional scale, which I have been the geologist involved in it.

Q Let me direct your attention to your map of the Upper Morrow. It's Exhibit Number Six, Mr. Tate.

Do you concur with Mr. Maxey that there is no potential for the Read & Stevens' spacing unit if they're drilling solely for the Upper Morrow potential?

A Based on my interpretation, yes, I do; however, if they would encounter any sand at the unorthodox location, it's obvious that the large proportion of that sand would be coming off Exxon's lease. To date the wells

that have encountered this particular sand in the Upper Morrow sandstone zone, the DC State No. 1 has encountered the thickest sand, 17 feet.

Q When we look at the wells immediately surrounding the Read & Stevens spacing unit, the east half, when we look to the west and find the Southland Royalty Scanlon Draw 19 State Com No. 1 Well --

A Yes.

Q -- do you have that one? You're familiar with that well, are you, sir?

A Yes.

Q You've included that as well information on several of your contour maps?

A Yes, I have.

Q Do you know, sir, whether or not that well was drill stem tested as Mr. Maxey has told us it was?

A According to the scout ticket as supplied by Petroleum Information the report is no cores or DST's.

Q What have you concluded from an examination of the Southland Royalty Well in relation to the spacing unit in the east half of 19?

A My opinion is that the spacing unit in the east half of Section 19 is relatively marginal and --

Q Well, when you add in now the Coquina

Well in the southeast of 19, what does that tell you as a geologist?

A It tells me a large proportion of their spacing unit has already been condemned.

Q Have you attempted to quantify the amount of their spacing unit in the east half of 19 that is not going to contribute to the well?

A Based on observation of the exhibits that they have supplied to us, approximately one-half of their spacing unit appears to be nonprospective and possibly even more.

Q Under your geologic opinion which of the individual isopachs that Mr. Maxey has provided shows the best potential as a standard location for the Read & Stevens acreage?

A The Exhibit entitled Net Sand Isopach Map Middle Morrow E Sand.

Q On the E Sand? And how does that compare to your mapping of the Middle Morrow production on Exhibit Five?

A My opinion is that they will encounter little if any sand at either an unorthodox location or a standard location.

Q Your opinions are diametrically opposed, are they not?

A Yes, they are.

Q Their best sand is the E Sand, is it? I'm sorry --

A Both, actually both the E Sand and the C Sand seem comparable at a standard location. I've looked at both of them and they both, based on their interpretations expected to encounter approximately 5 feet each.

Q Okay, and when you put all those zones together in the Middle Morrow, what do you conclude with regard to the east half of 19?

A That it is nonprospective.

MR. KELLAHIN: That concludes my examination of Mr. Tate, Mr. Catanach.

We move the introduction of his Exhibits One through Six.

MR. CATANACH: Exhibits One through Six will be admitted as evidence.

Mr. Carr?

CROSS EXAMINATION

BY MR. CARR:

Q Mr. Tate, when you say your conclusion is that the east half of 19 is not prospective, what do you mean?

A Based on the producing wells that are

highlighted on the Middle Morrow producing sand map the quantity of sand which I've interpreted to occur on the east half of Section 19 is between zero and 10 feet. The well in the south half of Section 19 covered only 4 feet and it was within this zone.

Therefore, it's quite obvious that the sand will be very thin. To date the thinnest sand that is producing from this Middle Morrow producing sand is 11 feet, located in the south half of Section 20.

Q Was it your testimony that 50 percent of the east half of 19 was productive?

A That was -- that was based on Read & Stevens interpretation.

Q And that's not your interpretation.

A No, it is not.

Q It is not your recommendation, is it, that at either of the standard locations which you have indicated on these exhibits, that the chances would be great of making a successful well, is that right?

A Yes, it is.

Q Plus it is your testimony that you would not make a good well there.

A Yes.

Q All right. When did you first become involved on this project?

A On this specific project --

Q Uh-huh.

A -- I became involved at the inception of it, which was April 13th was the original hearing date. I prepared the exhibits prior to that time in association with the regional mapping efforts that I've conducted both up dip and down dip in the area.

Q Are the exhibits that you've presented here today the exhibits that you had prepared back in April for the hearing?

A Yes, they are.

Q And that's based on the regional mapping that you had done in the area.

A It's based on both the regional mapping --

Q And --

A -- it's based on all, looking at all of the available data.

Q And you've refined that data as it related to this Turkey Track area, is that correct?

A I'm sorry, I don't understand.

Q When you were preparing exhibits for the April hearing, did you just lift parts of your regional map or did you refine that information and prepare it for presentation in the hearing?

A I'm not quite sure what your point is.

Q Did you change --

A Sorry.

Q Did you change your interpretation in any way from the regional map?

A Oh, no. No, I did not.

Q So you just took these and these are parts of your regional mapping effort.

A Yes, they are.

Q And when did you do your regional map?

A I've been conducting that regional mapping prior to that time and I've continued with it since that time.

Q Has it changed since that time?

A No, it has not.

Q There's been no new information?

A There've been no new drill wells in these areas.

Q When was the well in the north --

A In a regional sense, let me clarify that. Of course there are -- obviously, the activity -- the activity, and this activity in the Morrow is -- i slow right now and there are additional drill wells; the opportunity arises that we might be able to pick a log, at which time incorporate that data into any regional map that

I drew.

Q But you haven't done that yet as it applies to these exhibits.

A There are no drill wells that have been drilled in this area.

Q When was the well in the northeast of 18 drilled, do you know?

A The northeast of 18, it was completed in November of 1983.

Q And you drilled that through the Middle Morrow, is that correct?

A Oh, I'm sorry, the east half, you say, I'm sorry.

Q I'm talking about the east half of 18.

A Right, I'm sorry. That was completed in May of '82.

Q And that drilled through the Middle Morrow.

A It drilled through the entire Morrow section.

Q And it was a decision of Exxon at that time, long before you were there, not to complete the Middle Morrow.

A Yes, it was.

Q And they completed in a shallower zone.

A They completed it in the Upper Penn.

Q Is it customary in your experience with Exxon for the shallower zones to be completed before the deeper zones, and they go back later to a deeper zone?

A I've seen it happen. The reason -- I've contacted the geologist who was in charge of this well at the time and the reason was fairly obvious. First off, a weak gas market. Secondly, and more importantly, the Upper Penn had an initial production flowing of 531 barrels of oil per day.

Q And that looked like a better zone,

A Yes, it did, especially with an oil market that was more favorable than a gas market.

Q Based on your testimony here today, I believe your testimony is, and correct me if I'm wrong, that you're concerned that a well at the proposed location would drain reserves from Exxon's tract in 18.

A Yes, it would.

Q And have you reviewed the information and data on the Hondo Well in the section -- I don't have a number -- Section 17, the south half of 17?

A Be more specific on that (not clearly understood).

Q Are you concerned about that well draining reserves in the Middle Morrow from the Exxon tract?

A I think it's possible but it's located at a standard location.

Q The standard location, though, even at that, it could be draining reserves from you, could it not?

A Yes, it could be.

Q Did you review pressure information, and if I'm taking you into an engineering area, tell me.

A Yes.

Q Did you review pressure information on the well in the north half of Section 17?

A No, I did not.

Q So you wouldn't know if there was a pressure drawdown or a depletion in the well in the north half of the section.

A No, I would not, but the well on the north half of Section 17 is -- seems to be a pretty good well to date. It was completed in '84 and it's still producing at a pretty good rate. It's producing at essentially the same rate as the Hondo Well is.

Q Is there going to be an engineering witness who might be familiar with the pressure data on that well?

A There will be an engineering witness called, yes.

Q And when the -- have you been present at

the meetings with Read & Stevens in an effort to try and resolve this dispute without coming to hearing?

A My belief is that most of the meetings have been phone conversations.

Q And you were not a party to those?

A I am aware of the majority of them. I probably was not in the room at the time, except on certain instances.

Q You are aware there has been on-going efforts for over -- well, since April of this year to try and resolve this matter?

A Yes, I am.

Q Have you done any independent mapping of the individual sand stringers or have you just done this gross isopachous map?

A The gross sandstone map is mapped. It is, again, as stated by your witness, also, the entire package of sands were completed, and it's (not clearly understood) and how it's been mapped.

MR. CARR: I have no further questions.

MR. CATANACH: Any redirect?

MR. KELLAHIN: No further questions, Mr Catanach.

MR. CATANACH: Any questions,

Mr. Carroll?

MR. CARROLL: No, Your Honor. I don't have any, Mr. Examiner.

MR. CATANACH: I don't have any questions. The witness may be excused.

GARY GOULD,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you please state your name and occupation?

A My name is Gary Gould. I'm a petroleum engineer.

Q Mr. Gould, have you previously testified before the Oil Conservation Division of New Mexico?

A No, I have not.

Q Would you summarize for us what has been your educational background?

A I obtained a petroleum engineering degree from the University of Kansas in 1987.

Q Subsequent to graduation would you summarize for us, Mr. Gould, what has been your employment ex-

perience as an engineer?

A Subsequent to graduation I've been working for Exxon Company USA in Midland, so that would be a year and two months experience.

Prior to that I worked two summers, one summer for ARCO Oil & Gas and another for ARCO Alaska.

Q Are you familiar with the engineering aspects of certain of the wells in the immediate area that's under discussion this morning?

A Yes, I am.

Q Are you also familiar with the recent Division order in Case 9407, which was Order No. R-8724? That was a Nearburg Producing Company order?

A Yes, I am.

Q Have you made a study of the calculated absolute open flows and the deliverabilities of the various wells in this immediate area?

A Yes, I have.

Q And do you have conclusions and recommendations to the Examiner for a penalty to impose upon the Read & Stevens Well?

A Yes.

MR. KELLAHIN: Mr. Examiner, we tender Mr. Gould as an expert petroleum engineer.

MR. CATANACH: He is so qual-

ified.

Q Mr. Gould, to begin your presentation, let me start with Exhibit Number Seven and have you describe, using that display, what you began to study when you were asked to make a presentation at today's hearing.

A Yes. Exhibit Number Seven shows a proration unit map.

The blue dot shows the proposed Read & Stevens unorthodox Morrow location. You will note that it's 660 feet from the end location, from the end boundary, and from our lease.

The two orange dots show the nearest standard locations for the proposed Read & Stevens Morrow well, and they are 1,980 from the end boundary.

Q In examining how to go about establishing a penalty for the Read & Stevens well, did you come up with a recommendation as to the various factors that ought to be included in that penalty formula?

A Yes.

Q What factors did you agree upon and propose to the Examiner this morning?

A I believe that two factors should be included.

One should be a distance factor as applied in the previous order, and also a production limita-

tion factor to control the allowable, since this is a non-prorated gas pool.

Q Let's turn to Exhibit Eight at this point, Mr. Gould, and discuss the distance factor portion of the penalty formula. What are you proposing to do?

A For a distance factor, as I said earlier, the actual distance being a boundary of 660 feet; the legal distance is 1,980 feet; therefore the actual distance is 67 percent closer to the end boundary than permitted by OCD rules and regulations.

Therefore I'm proposing a distance factor of 33 percent and this is consistent with the Commission Order R-8508 on September 9th, 1987, and it was also plotted more recently in Division Order R-8724 on August 23rd, 1988.

Q In addition to the distance factor, the other factor you mentioned was an allowable factor or a method by which you could establish an allowable against which you then would apply the distance factor.

A That is right.

Q All right. In reviewing the recent Division orders, how has the Division handled the establishment of an allowable, if you will, in a nonprorated gas pool such as this?

A The Commission, in Order R-5832, pre-

sented special rules for applying a penalty factor.

Q Have you reviewed those rules?

A Yes, I have.

Q Do you have any specific recommendations to the Examiner as to other changes in the rules as they have been issued in the past?

A One rule is to look -- to take one day of production to fix the deliverability, and I believe that we should change that rule and look at a three consequent day average so that the well could not be prepared beforehand to artificially have a high deliverability.

Q Once we complete the well and get the deliverabilities on the well, do you have a recommendation as to how the Examiner will then determine the allocation or the allowable factor for the penalty?

A Yes, I do.

Q Let me turn your attention to Exhibit Number Nine. Would you identify and describe Exhibit Number Nine for us, Mr. Gould?

A Exhibit Number Nine shows the 10 Morrow wells surrounding the proposed unorthodox location. It shows the completion dates, CAOF, initial production date, and their actual deliverability.

And what I'm attempting to show is if you look at the bottom line, the average of the CAOFs

matches the deliverabilities. You'll note that actual deliverability is roughly about one-third of the CAOF, average CAOF.

Q Would it be appropriate, in your opinion as an engineer to simply take the distance factor penalty and apply it against the calculated absolute open flow for the well?

A No. If you did that, as you see, if you take a distance penalty of 67 percent and apply it to the CAOF, the well would be at its actual deliver -- capable of deliverability, anyway.

Q And would not, therefore, be subject to an actual penalty.

A Right.

Q How have you proposed, if we use the CAOF as the allowable, if you will, how do you propose to handle the penalty factor so that we could utilize the CAOF as a portion of the penalty?

A If we use the CAOF, we need to multiply by a production factor of roughly one-third, as attained from the average actual deliverabilities compared to the average CAOF shown here, and also apply the one-third factor determined from the distance factor.

Q In addition, have you a recommendation to the Examiner as to how he might apply the distance fac-

tor against the average deliverability, as shown on Exhibit Number Nine?

A Against the average?

Q Yes, sir.

A If you were to use the actual deliverability you could multiply just by the one-third of the distance factor.

Q It would be your recommendation, then, that a portion of the penalty include the actual deliverability of the well?

A Yes.

Q And you have shown the actual deliverabilities of the various offsetting wells in the column to the right on Exhibit Number Nine?

A That's correct.

Q And would a penalty as you propose be one that's consistent with the way the Division entered the order in the Nearburg case?

A Yes, it would.

Q You've heard Mr. Maxey talk this morning about a minimum allowable --

A Yes.

Q -- by which he proposed that notwithstanding the fact the Hondo Well is currently at a deliverability of 600 MCF a day, he would propose that any penalty

on the Read & Stevens well drop off at 500 MCF a day.

A Right.

Q Do you have any comments and observations about that proposal?

A It seems that that would be unfair for the Hondo location. Since the Hondo location is at a standard location, that it would be producing at the same rate as the Read & Stevens well, which is at an unorthodox location.

Q In summary, then, Mr. Gould, what is your opinion and recommendation as an engineer with regards to the penalty factor to be assessed the Read & Stevens Well?

A If we are to apply a penalty factor and allow the unorthodox location, I feel that we should take into consideration -- we take into consideration the CAOF and we should multiply that by a production limitation factor of 19. If you want to take into consideration just the actual deliverability into the pipeline, it should be multiplied by the distance factor of one-third.

MR. KELLAHIN: That concludes my presentation of Mr. Gould's testimony.

We move the introduction of Exhibits Seven, Eight and Nine.

MR. CATANACH: Exhibits Seven,

Eight and Nine will be admitted as evidence.

Mr. Carr?

CROSS EXAMINATION

BY MR. CARR:

Q Mr. Gould, you indicated there were a couple of ways to go about applying this penalty.

A Right.

Q Do you have a preference as to which one would --

A No, I do not.

Q -- be more accurate?

A I'm leaving that up to the Examiner.

Q Do you think that going with a calculation based on the calculated absolute open flow is a preferable way to go as opposed to the actual deliverability of the well?

A I'm leaving that up to the Examiner.

Q You don't have a preference?

A No, I do not.

Q So actual deliverability is one option?

A That's correct.

MR. CARR: That's all I have.

MR. CARROLL: No questions.

MR. CATANACH: The witness may

be excused.

MR. CARROLL: Mr. Catanach, I have one witness to present.

MR. CATANACH; Okay, fine.

MR. CARROLL: It will be very brief, and that witness will be Mr. Lamb.

N. RAYMOND LAMB,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARROLL:

Q Mr. Lamb, for the record would you state your name and occupation?

A N. Raymond Lamb. I'm a consulting geological engineer.

Q Mr. Lamb, you reside in Artesia, New Mexico, do you not?

A That's correct.

Q And you have testified numerous times before this Commission over a long span of years, have you not?

A I have.

MR. CARROLL: I would tender

Mr. Lamb as an expert.

MR. CATANACH: He is so qualified.

Q Mr. Lamb, you were present and did hear the testimony of the expert for Read & Stevens, Mr. Maxey, did you not?

A That's right.

Q And you did have an occasion to review his Exhibit Two, which I'll hand you a copy of it, which was his geological interpretation for the Middle Morrow sands in this -- under the -- the east half of Section 19, is that correct?

A That's correct.

Q Now, a basic conclusion of Mr. Maxey, based on the Exhibit Two, was it not, was that Read & Stevens does not have a viable orthodox location. Was that Mr. Maxey's conclusion?

A Yes.

Q Mr. Graham -- Lamb, do you agree with that interpretation?

A Not entirely, no.

Q Mr. Lamb, have you had occasion to work in this particular area?

A As a matter of fact I drilled both Hondo wells in Section 17.

Q All right, and those are the wells that we've been talking about, is it not, throughout most of this hearing today?

A The Exxon was a dry hole and the Union was the first producer discovery well.

Q All right. Now you have prepared some exhibits, have you not, for this -- this hearing?

A I have.

Q I'm going to -- I have handed you, Mr. Lamb, two exhibits, one marked Hondo Exhibit Number One and the other one marked Hondo Exhibit No. Two.

A Yes.

Q Were these exhibits prepared by yourself in preparation for today's hearing?

A They were prepared by me and from file data, statistical in the way of production and PI scout cards.

Q All right.

MR. CARROLL: Mr. Examiner, we did not realize when we were preparing for this hearing that the scout cards would contain information that might be useful. I do not have copies of them. Mr. Lamb wants to use them in his presentation here.

If you would allow us, we will make copies of them and present them as an exhibit later,

if there's no objection.

MR. CATANACH: That will be fine.

Q Mr. Lamb, I'm going to hand you those scout cards.

Now, Mr. Lamb, you've told us that you do not totally agree with Read & Stevens interpretation, is that correct?

A That's correct.

Q And the exhibits that we now have before you, Exhibit One, Two, and the scout cards, which will become Exhibit Three, do you -- are those what you use to form your basis of your disagreement?

A This is partial -- part of the information that I have; actually, the basic information.

Q All right. Would you please tell us what -- how you disagree with the interpretation that's been presented by Read & Stevens, and the basis therefor?

A Well, the first well that comes to my mind is the well in 18, which is the Southland Royalty. They call it the Scanlon Draw 19-1 -- excuse me, in Section 19. It was completed in 1985. I believe the information so far has been no drill stem tests on the well, but as I read from the card, it says, "Perforated Morrow east, 11,238 feet to 48 feet; 11,262 to 272"' and the perforating

of this zone required the company to set 5-1/2 inch casing at 11,348 feet.

What I'm saying is that Southland Royalty, in the drilling of this well saw enough data in the well on the logs to justify the running of the casing. So I don't feel that a zero thickness is justified for this well.

Q This is what has been depicted on these Exhibits Number Two presented by Read & Stevens.

A And I feel that opens up the extension or projection of the sand development in that direction.

Q And that would, in effect, make viable, then, standard or orthodox locations?

A Yeah, instead of being carried zero, I suspect that there is some justification for sand being there in that they did run pipe and perforate.

The second well is the Coquina Well. It's also in Section 19. It's 1980 from the south and east; a drill stem test in the Morrow from 11,100 feet to 234 feet; gas to the surface in 35 minutes; 137 MCF a day, and no recovery of fluid. The shut-in, final shut-in pressure was 4565 pounds.

A second drill stem test from 11,284 to 314, was open 2 hours and 15 minutes, gas to the surface in 3 minutes, volume, 3,600,000 cubic feet a day.

And the final shut-in pressure on that was 4580. As -- I do not have the reliable information from Coquina's files, but I suspect that they had the sand, they had it containing gas, and I suspect they had a limited reservoir.

But the sand is there and it contains oil.

Q That information would also disagree with the mapping that has been done in Exhibit Two, is that correct?

A It would open the contour to the south, which is a zero contour, and give an opening for an orthodox location on that tract.

Q All right. Is there anything else with respect to these exhibits that you would like to --

A Yes. I'd like to talk about the Hondo Union TX No. 1 and the Southland Royalty Parkway No. 17 Com.

The TX Union was the first well in the are to produce. It was drilled in 1974. The bottom hole pressure on the zone was 4,657 pounds. It produced 2,876,000 cubic feet a day. The cumulative production now is over 3,336,000 cubic feet.

The Coquina Well -- no, excuse me.

The Hondo Well to the north in the same

section had a bottom hole pressure of 4555.

When the Southland Royalty Well, the Parkway 17, was drilled in '84, it encountered the Morrow. The shut-in bottom hole pressure was 2,232 pounds. The potential was 1,160,000 cubic feet of gas a day, and what I'm saying is that obviously the Southland Royalty had a drawdown in pressure from the production from the Union.

One other thing happened, when Southland Royalty perforated and fraced that well, we felt a response in our well and the Union, which would give you a feeling of some communication.

That is the data that I think needs to be inserted in the data bank of this hearing.

I would suggest that Read & Stevens has a legal location other than the unorthodox they propose. If the unorthodox location is allowed, Hondo Drilling Company would object. I'd rather see them drill an orthodox location, but if it were permitted to be drilled, we would want to be advised on any acid treatment in excess of 5000 gallons and any frac job over 15,000 pounds. And this would be because of our experience from the Southland Parkway 17.

The other exhibit is a map presentation of the data that was found on the original tabulation and gives you all the pressures that I know.

Q Mr. Lamb, you have, and just then in your testimony, stated that one, Hondo basically opposes the drilling at an unorthodox location and if the Commission did allow such a drilling that it would propose that a penalty be imposed upon that production from that well.

Mr. Lamb, based -- in an effort to protect the correlative rights and prevent waste and with respect to this particular area, do you feel that this opinion that you have just expressed is necessary to protect the correlative rights of Hondo Drilling?

A Yes. There's one other, if I may say, there's one other item I would like to clarify.

On the plats that I have seen the production from the Hondo Union have been shown incorrectly on both sets of reports. The well has basically been shut in for 26 months with only 74-million produced over that period at an erratic timing.

The Southland Royalty Well in 17, the Parkway 17, has produced six times as much gas as the Union TX in the last 26 months, and that doesn't quite correspond to what I see on the maps here.

Q Mr. Lamb, you have heard today, have you not, the -- several penalties being proposed by the various witnesses? Do you have an opinion to express to the -- to the Examiner with respect to what kind of penalty should be

imposed if this well is allowed to be drilled in an unorthodox location?

A Well, at the 660 location proposed, I would suggest at least 50 percent.

MR. CARROLL: I have no other questions to ask this witness.

MR. CATANACH: Mr. Carr.

CROSS EXAMINATION

BY MR. CARR:

Q Mr. Lamb, you testified that you felt Read & Stevens had a legal location in the east half of 19.

A That's right.

Q In saying that, did you mean they had a legal location where in your opinion they could complete a well?

A Right.

Q If that's your opinion, I would assume that you concur that at least half of that section has potentially commercial reserves underlying.

A Well, I have to believe that the Coquina Well showing that much gas on a test has got to be in close proximity to the reserve. Now, if not in that well, but you find very few wells that will produce 3,600,000 on a drill stem test that isn't close to a reservoir.

Q And in what interval was that drill stem test run, do you know? Was it the Lower Morrow or the Middle Morrow?

A Well, they ran two, you remember, I read two.

Q Well, I'm not --

A The upper one made 137,000 cubic feet and that was from 11,100 to 34, and the other one was from 11,284 to 314.

Q Now, Mr. Lamb, before you talked about this Coquina Well you talked about a Southland Royalty Company well and you indicated that there was enough of a show that they set casing.

A That's right.

Q Was that show in the Middle Morrow or in the Lower Morrow, do you know?

A Well, I -- I don't have that. I really --

Q So it might be in the Lower Morrow?

A Yes, yes. But they -- they felt enough of the zone that they had to run casing, perforate it, and test it. They did show any test, but I wanted it clear that this perforation job took place.

Q Now, what was the initial shut-in tubing pressure of the Hondo Drilling Union Texas State Com No. 1?

A Well, I -- I can give you the bottom hole pressure.

Q Okay, that would be fine.

A 4657.

Q And then a comparable pressure on the Southland Royalty Parkway 17, do you have that?

A Was 2232.

Q So over the course -- and that was how many years later?

A Ten years.

Q So there was a pressure drawdown that could be attributed to the -- the Hondo Union Texas No. 1.

A I would suspect that's true.

Q But I think you testified that the Southland well north of that has produced substantial volumes, in fact, more than the -- the original well. Is that correct?

A Southland Royalty?

Q Yes.

A Mr. Carr, I'm referring to the last 26 months.

Q All right, but there --

A They -- Hondo has produced 78-million in that period of time and the southwest -- I mean Southland Royalty has produced 4,700-and some odd thousand.

Q In your experience with working with these sands, it is possible, then, for wells to drain fairly large areas. Isn't that fair to say?

A Well, let me modify that a little. They can drain considerable acreage in the channel but we don't know the direction of the channel or the size of the well (unclear).

Q And just the channel that is present in the Hondo Union Texas State Com No. 1, the southernmost well --

A Yeah.

Q -- in 17, if that channel extends off to the south and the west, it would be draining that direction also.

A Yes.

Q And it would be draining off to the west, if it goes that direction.

A Yes.

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

MR. CATANACH: Anything further of this witness? If not, he may be excused.

MR. CARROLL: That concludes the evidence that I have.

MR. CATANACH: Do counsel wish

to make brief closing statements at this time?

MR. CARROLL: Mr. Catanach, if I could, I would move admission of the two exhibits I have presented and the third one, which I will get to you as soon as I return.

MR. CATANACH: Okay, Exhibits One, Two and Three will be admitted as evidence in this case.

MR. KELLAHIN: Mr. Catanach, the applicant has not done it's homework and the case ought to be denied.

It's not often that I suggest to you that an unorthodox location simply be denied. We have fussed for years about intricate and complex penalties on which to somehow balance the equities between someone that wants to have an unorthodox location as opposed to operators that already have wellbores in the ground and cannot move them in order to compensate for the drainage that the applicant seeking the unorthodox location is going to achieve.

But in this case the applicant simply has not provided you with sufficient data to even approve the application.

We've attempted to find out from Mr. Maxey what it is that he believes can be produced

underneath the east half of 19, and he gave us a gas in place number of 2.7 BCF, but under examination we find that in order to give that quantity of gas in place, he's got to take it outside of his spacing unit. He could not give the gas inplace calculation for what he says is the remaining portion of productive acreage in the east half of 19.

Yet he wants you to approve the application and give him a one-third penalty, notwithstanding the fact that he's admitted to us that 50 percent of his spacing unit is not going to contribute productive acreage to that spacing unit.

In addition he says take that penalty and divide if further by considering the fact that I'm at a standard location from the east boundary and by mathematical magic what ought to be a significant penalty is then reduced to a third, which is meaningless in this case, particularly in light of the fact that Mr. Maxey proposed the penalties to drop off when the well produces at half a million a day, or less.

Contrast that, if you will, to what happens to Mr. Lamb in the Hondo Well, which is currently producing at 600,000 a day. The penalty is no penalty at all; it's a meaningless gesture.

That ought not to be the way we do things around here.

And what are you going to decide it on? You're going to decide it on geology. That's where Mr. Maxey says he's gotten the basis upon making his calculations. He's got it based upon some geology.

Where is Mr. Jackson (sic)? He's the guy that did the work. He's not here to ask questions about his geology. He's not even here to defend his own work. The only geologists you saw today were the Exxon geologist, Mr. Tate, and Mr. Lamb. They're here to stand behind their work and Mr. Tate tells you in no unequivocal terms that he diametrically opposed to the interpretation of this absent witness.

I think if there's a case that begs you to deny it, it is this case. The facts are, as I think Mr. Tate has told you, geologically the closest standard locations are geologically acceptable and therefore the unorthodox location is not needed.

But we've seen from the only witness the applicant has given, from his own mouth, he's the one that tells us he only has 50 percent of this spacing unit that's productive, and yet he's not factored that into his penalty.

It seems totally inappropriate to me, Mr. Chairman, to allow this applicant to gain this type of unfair advantage over the offsets without

denying the case.

If you decide, however, not to deny it and to impose a penalty, we would suggest that you can follow in general the format utilized by the Division in the Nearburg case. That was a recent case which you decided, Mr. Examiner, and which has built into it some comfort for the offset operators, and the comfort factor is that the penalty is applied against the realistic allowable. In a nonprorated gas pool we have to utilize some method by which we make the penalty meaningful. We have suggested that you continue to utilize the process you did in the Nearburg order, which is you give them a certain portion of the calculated absolute open flow of the well. In this case Mr. Gould says it's one-ninth of that number, or you give them the deliverability of their well, which is one-third of that number, as the penalty.

The combination of those two things, allowing the well to produce whichever is less under that penalty, is one that at least slows down the drainage that the Read & Stevens Well is going to extract and place upon the offsetting acreage and give us a chance, then, to try to avoid that drainage with some counter-drainage in our section.

But in conclusion, Mr. Catanach, we believe that this particular applicant in this

case has not bothered to give you a geologic basis for am opinion, not is there engineering work done to a sufficient degree of certainty that you can be even comfortable as to what portion of this BCF number Mr. Maxey has given us, that tells you what's underneath this tract.

His economics area based upon the 2.7 number and he tells us even at that it's a marginal deal.

I think the applicant will thank us for saving him from the expense of making a bad investment. Let's deny this thing and let him go out and find some other prospect that is more profitable to him and is less injurious to us.

MR. CATANACH: Mr. Carroll, anything?

MR. CARROLL: Mr. Examiner, I think Mr. Kellahin has adequately stated the case of both of us opposing the granting of this application.

MR. CATANACH: Mr. Carr?

MR. CARR: May it please the Examiner, Read and Stevens is before you seeking approval of an unorthodox well location in the Morrow formation.

We are the owners of the east half of Section 19, which we believe has been clearly established to you by the record in this case to be more than

50 percent capable of producing -- producing commercial reserves in the Morrow.

Mr. Kellahin wants to attack the absence of geological testimony and then he turns around and in the same breath cites Mr. Lamb. Mr. Lamb a few minutes ago testified about the Coquina Well concluded more than 50 percent of that spacing unit is capable of commercial production.

Mr. Kellahin wants to select and choose, however, and come in here and attack the presentation of Mr. Maxey, a presentation which he didn't attach on cross examination. He didn't pursue or object to Mr. Maxey's reliance on work that he had verified prepared by in-house geologists. He wants to wait until after the fact and attach it now, because if he'd attacked it earlier, his attack would have amounted to nothing at all.

So first of all, we have a tract that we believe has got at least 50 percent of it underlain with commercial production in the Morrow formation.

We have prepared for you and presented to you a case which clearly entitles us to be able to go forward and develop these reserves. We submitted to you not information that was prepared and lifted from other studies for the purpose of this hearing, we're presented to you the very data which was prepared in-house upon which

the decision was made to buy this property in the first place. It wasn't something contrived for you; it's something that we made a business decision on and we submit to you that it's accurate.

All we are here seeking is our share and when we have a tract that has got 50 percent of it with commercial Morrow production under it, we think we're entitled to forward.

But we go to Exxon and Exxon says no. We've tried since April to work out a deal and Exxon says no.

It would be easy, perhaps, to understand why they were saying no if they were doing anything to protect their own correlative rights in the Morrow, except they're not. They're asking you to do it instead. They say, well, we're going to bank that. Don't let anybody else drain it. Don't let anybody offsetting us develop it. Some day we may come back to it.

I submit to you that correlative rights is an opportunity to produce your fair share and that requires that the operator do something to protect their correlative rights, to develop reserves, other than coming to you and just saying no.

We might even understand this attitude of just saying no a little bit better if they

weren't sitting there being pressure depleted by the Hondo Well, but this is a valuable resource they want to lock up -- they want you to lock up, but it's not valuable enough to go after and produce now. The way they want to save it is tell us, don't produce that which is yours.

Hondo is in a different position. They have developed their acreage. They stand with a well offsetting that's produced 3.5 BCF of gas; there's been substantial pressure depletion because of it, and because of the production from this in the Southland Well over the last 14 years.

We're encroaching in that direction and because of that we have told you, a penalty is appropriate but it's time to make a penalty realistic, and we think generally the approach of the Nearburg order is correct. Look at how much we're encroaching and when you do that, you see that we are a third too close to the offsetting property. Now calculated absolute open flows may or may not be what the Commission wants to do, but I submit to you, when you look at Exhibit Number Nine and you see calculated open flows, that some are substantially above what the deliverability was and others are below the deliverability actually worked out to be. That's probably not the way to go, and we propose that you take the amount of encroachment on an acreage basis and apply it against

not somebody else's well or what something else may be, but on the actual deliverability of the well that we are going to drill based on annual deliverability tests.

We think that's fair. We think it's a meaningful figure. We think it imposes a penalty which, in fact, will let us develop and at the same time keep us in a position from impairing their correlative rights if they decide to avail themselves of their opportunity and go out there and try and produce their gas.

We also think that you should follow the Nearburg order format and set a minimum producing rate because if you don't do that, the economics are such that we will probably not be able to develop this acreage and the reserves that are there will be lost. That's waste. We won't get our fair share. That impairs correlative rights, and unless you approve the application, penalize it only a third, and set a minimum producing rate of 500 a day, I submit you won't have carried out your statutory responsibilities.

MR, CATANACH: Thank you, Mr. Carr.

Anything further in this case?

If not, it will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C. S. R. DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9500 heard by me on October 12 1984,

David R. Catanach, Examiner
Oil Conservation Division