

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 9, 1967

Examiner Hearing

IN THE MATTER OF:

Application of Len Mayer for an
unorthodox gas well location, Eddy
County, New Mexico

Case No. 3632

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: Case 3632.

MR. HATCH: Case 3632, application of Len Mayer for an unorthodox gas well location, Eddy County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin, Kellahin and Fox, appearing for the Applicant. I have two witnesses I would like to have sworn, please.

(Witnesses sworn)

ROBERT W. LANDENBERGER JR., called as a witness by the Applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Robert W. Landenberger Jr.

Q How do you spell that, Mr. Landenberger?

A The last name is L-a-n-d-e-n-b-e-r-g-e-r.

Q What business are you engaged in, Mr. Landenberger?

A I am self employed as a Consulting Petroleum Geologist.

Q Where are you located?

A Artesia, New Mexico.

Q Have you ever testified before the Oil Conservation Commission and made your qualifications as a geologist a

matter of record?

A No, sir, I have not.

Q For the benefit of the Examiner, would you outline, briefly, your education and experience as a Petroleum Geologist?

A I graduated from the University of Oklahoma in 1950. I worked six years with City Service Oil Company in the capacity of a geologist.

Q Where were you located in connection with that work?

A For a while in Bartlesville, but mostly in Midland and Roswell.

Q Go ahead.

A And one year for the Buffalo Oil Company in Artesia. They sold out to Continental, and six years for Yates Petroleum in Artesia, and for the past four years, I have been on my own in Artesia.

Q Now, in connection with your work as a Petroleum Geologist, have you had any particular experience with Pennsylvanian oil pools in southeastern New Mexico?

A Yes, sir, I have. There is quite a few Penn wells right near the Artesia area.

Q And did you have anything to do with the drilling

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and completion of these wells?

A Yes, sir. Yates, for the time I worked for them, had an interest in a few of the well in this particular field, and I also sat on a well for Mr. Mayer recently.

Q Now, with particular reference to the Atoka Pennsylvanian Pool, did you have any particular experience in that pool?

A Yes, sir, I sat on four or five of those wells.

Q You say you sat on five of the wells?

A Yes, sir.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, sir, they are.

Q (By Mr. Kellahin) Now, are you familiar with the application of Len Mayer in Case Number 3632?

A Yes, sir.

Q Briefly, what is Mr. Mayer proposing in this application?

A Well, Mr. Mayer is proposing to get himself an unorthodox location against the field rules in the northeast quarter of Section 32.

Q And the orthodox location would be in the west --

A Down in the --

Q -- southeast?

A -- southeast.

Q Southeast part?

A Yes. I meant to say northeast.

Q Northeast?

A Yes, and the orthodox location is down in the southeast.

Q Now, in connection with this application, did Mr. Mayer have you do any work to study this proposed location?

A Yes, sir.

Q Now, did you make such a study?

A Yes, sir.

Q How did you proceed in that study, Mr. Landenberger?

A Well, using the, my experience in the field and the available logs, I prepared just the one exhibit, which is an isopach on the main pay which is the Morrow "B" Sand.

MR. KELLAHIN: Could we have this marked as Applicant's Exhibit 1, please?

(Whereupon, Applicant's Exhibit 1 was marked for identification.)

Q (By Mr. Kellahin) Now, referring to what has been marked as Applicant's Exhibit Number 1, would you discuss that exhibit, please?

A Yes, in the earlier period of the field's history, the first few wells, most of the geologists in this area assumed this as sort of a structural sand, sort of a beat sand deposit with some structure attached to the thing. But later on, as the wells were drilled, we discovered that this actually was a channel sand. This is a secondary deposition type of thing. In other words, a crevice or channel is formed in the Pennsylvanian and then later filled with sand.

When you take the regional dip out of this thing on a cross section, the surface of the sand is relatively flat and the channel shape is real plainly shown on any cross section made. Because of that, the porosity is real fantastic in the channel itself.

On this exhibit I have marked -- well, there are three distinct pods or channels or units. Just the east side of the western-most pod is visible on the map, and the heavy red outline shows the approximate outline of the channel itself, while the lighter red just shows the location of the channel between the markings.

Q Now, with reference to the three pods as you have described them there, the one furthest west, is it a productive area in the --

A No, you can see -- pardon me. You can see the little

shale markings I have made at the various wells and different pods, that show that these particular areas are shaley, and in most cases, non-productive. The actual text book type of channel is the one in the center, which is the one in question, and these channels are always made at right angles to the regional dip, which is true in this case. The regional dip is northeast, southwest and you can see the channel at exact right angles to the dip.

In the earlier stages of the field, again, I thought that this channel curved back toward the east on the south end of this central pod, but with the advent of Mr. Mayer's well in Section 20, with fifty-six feet of sand pay, with the three wells in line, the 1 in 20, Mr. Mayer's, the Ohio Arnquist in 29, and the Nix Well in 29, established the true position of the channel. I then changed my maps and extended the channel the way nature intended it, straight against the regional dip to the southeast.

Q Now, actually on the basis of the information you had, you still could have curved that around to the east, in the lower half of Mr. Mayer's land, could you not? At the proposed location, couldn't that have been swung to the east, or would that be the natural thing to do?

A You mean where the proposed location is now?

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Q No, to the south of the proposed location.

A Oh, yes.

Q Could those contours have been swung around to the east on the basis of the information you have now? Do you have any control which indicates that?

A Oh, yes, we have two wells. There is one well in the northwest corner of 32 and one well in the northwest, or northeast, I am sorry, of Section 33, and this fairly well establishes the position of the channel. Is that what you had in mind?

Q Yes.

A Yes.

Q So your drawing of the channel in a straight line, as you have done, is supported by logs, is that correct?

A Yes, sir, by the position of these two wells.

Q And would that be the natural way for such a channel to be formed in the first place --

A Yes, sir

Q -- from the geological point of view?

A You will also note that I have made the contours on the south end of the channel, approximately the same thickness and width as the ones on the north end of the channel.

Q Now, your channel is based at least the depth of it

is based primarily on the thickness of the pay zone found in the subject well --

A Yes, sir it is.

Q -- to the north, is that correct?

A -- actually well depth, right, and pay depth.

Q And you have fifty-six feet , you say, in the northernmost well --

A Right, Mr. Mayer's well.

Q --which was drilled by Mr. Mayer?

A When we drilled this, Mr. Mayer's was approximately a mile north of the better, best well in the field, the Arnquist. And I feel sure that the channel should, extends further southeast, because now we are approximately a half a mile south of the Nix well, which is almost an equally as good a well, so we should still be right in line with the channel.

Q Now, with reference to your Exhibit Number 1, would you recommend to Mr. Mayer that he drill in an orthodox well location?

A As you will see later on these logs, as soon as you get a little off of the channel, the porosity decreases, and even though I believe that the entire east half of this section to be productive, I would rather, in the rough, just

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say I would rather have a better spigot or faucet into the reservoir itself and drill in the proposed location. We would be restricted as to the amount of gas we could get in a more southerly location. I would prefer to have better porosity up in the northeast quarter of that section.

Q Now, in your opinion, would a well located, as proposed by Mr. Mayer, effectively and economically drain the east half of the section --

A Yes, sir, I certainly do.

Q -- if that were dedicated to the well?

A Yes.

Q Is there extensive production to the north?

A Yes, two of the best wells in the field are directly in the section to the north.

Q Do you know anything about the pressures in this area?

A Well, not exact figures, but I do know that the field is about a third depleted and our pressures that we got on the well up in Section 20, Mr. Mayer's last well, clearly showed this and was right in line with the wells to the south.

Q Did the pressures on that well, in your opinion, indicate that drainage had occurred in that area?

A Yes, sir, very well.

Q -- as the difference between the virgin reservoir pressure and the pressures found --

A Yes, sir.

Q -- when the well was drilled?

A Yes, sir.

Q Now, you say you had some logs in connection with this exhibit?

A Oh, yes.

Q Would you produce those?

A Now, the main reason for this is just to show you what the two wells just immediately to the north look like in pay thickness, and, then, the other well that I have is the Ohio Nix Curtis in Section 32, to show you the difference between just being a little off of the channel would do, against what it would look like in the channel. It is very clear; see, I have them outlined in red.

MR. NUTTER: Mr. Landenberger --

THE WITNESS: Yes.

MR. NUTTER: -- while we are at it, would you explain what the little crosshatching means --

THE WITNESS: Yes.

MR. NUTTER: -- along the edge of the channel and

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down here in this west pod?

THE WITNESS: Shalèy and or tight.

MR. NUTTER: It is shalèy and tight?

THE WITNESS: And tight, yes, sir.

(Whereupon, Applicant's Exhibits
2, 3 and 4 were marked for
identification.)

Q (By Mr. Kellahin) I hand you what has been marked
as Exhibit Number 2 and would you identify that exhibit,
please?

A Yes, the 2 is a copy of the Ohio Number 1 Nix pay
zone on the electric log. You will note that the pay thick-
ness is quite evident there, it is very good.

Q I hand you what has been marked as Exhibit Number
3 and ask you to identify that exhibit, please.

A Yes. Exhibit 3 is a copy of the pay zone on the
Ohio Number 1 Arnquist in Section 29, also a very excellent
well.

Q I hand you what has been marked as Exhibit Number
4 and ask you --

A On Exhibit Number 4 you can readily see the very
minute pay zones on the edge of the channel.

Q And what is that well and where is it located?

A This is the Ohio Number 1 Nix Curtis in 32 of 18,

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26, in the north, northwest corner.

Q That was dry hole, was it not?

A Yes, sir, a dry hole. I think there was about five feet of sand present.

Q And as I understand, Mr. Mayer completed a well directly to the east of that well, did he not, north and east?

A Oh, yes, that would be the Mallard-Mayer-Holt Well.

Q Are you familiar with that well?

A Yes, sir.

Q What kind of pay section did it have?

A It was on the edge of the channel and was fairly shaley and tight, but it did have about five feet of pay in it.

Q Does that again reflect your conclusion that there is a channel --

A Yes, sir.

Q -- running from north to south --

A Very much so.

Q -- through the area involved here? Now, in your opinion, is all of the east half of Section 32 productive of gas from the Atoka-Pennsylvanian pool?

A Yes, sir, I believe the entire east half of Section

32 would be productive. As I stated before, a location in the northeast quarter of this section would be the best entrance into this porosity.

Q Would a well located there adversely effect any offset operator in your opinion?

A No, sir.

MR. KELLAHIN: At this time, I would like to offer in evidence Exhibits 1 through 4 inclusive.

MR. NUTTER: Applicant's Exhibits 1 through 4 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 4 were admitted in evidence.)

MR. KELLAHIN: That's all I have on Direct Examination.

MR. NUTTER: Does anyone have any questions of Mr. Landenberger? Mr. Morris?

CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Landenberger, in connection with the study that you have done on this application, have you referred to previous cases that have been presented to this Commission for unorthodox well locations in this pool?

A No, sir, I have not.

Q You have not examined the isopach maps that have been introduced in any of those cases?

A No, sir, I have not.

Q Then, I take it you are not aware that the isopach map that you present here as Exhibit Number 1, is considerably different from any of the isopach maps that have been presented to the Commission or the Examiners in previous cases?

A This is quite original and I have never looked to anybody else for this work, except in talking with various geologists in the area.

Q Now, in making a study of the sort that you have here, in preparing the isopach map that you have, wouldn't it be customary, Mr. Landenberger, for you to examine the public records of the Commission, to take a look at the isopach maps that have been previously presented in connection with similar applications?

A Well, I am familiar with most of the wells in the area and sat on approximately a third of them myself.

Q Which ones did you have personal experience with?

A One of the first wells was the Dayton Townsite Well in Section 21, in the northeast quarter, and, then, the Yates Petroleum Corporation Number 1 Bob Gushwa in the same section, the well to the south of that. Mr. Mayer's most recent well in

Section 20, in the northwest quarter. Mr. Mayer's well in Section 28, or Yates Petroleum Corporation Number 1 Len Mayer in the northwest quarter of Section 28, and as a geologist will do, of course, during the drilling of wells, we would be present and in talking with other geologists at the time those wells were drilled also, of their own.

Oh, also, I am sorry, also the Nearburg Ingram Number 2 Hawkins Well --

Q Where is that?

A -- in Section 27. I was present there.

Q Now, I believe you stated that the Marathon, or the well you have shown as the Ohio well --

A Yes.

Q -- in the northwest quarter of Section 32 had, in your opinion, had some pay thickness. Is that present in the well?

A Which well was that?

Q The well in Section 32, it would be the west offset from your proposed location.

A Oh, yes.

Q How much pay did you think that well had?

A Well, actually, it was only about five feet of sand. It can't be classified as pay, really.

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Q All right. Now, are you classifying that as net pay in that well?

A No, sir, it was a dry hole.

Q All right. Now, I see that you have that well shown on your Exhibit Number 1 as being at approximately the ten foot contour interval in your isopach map. I don't understand why you would have it located at that position?

A Well, I possibly could have moved the line over slightly. Those circles are rather large, I could have pushed it over a little farther, but the thing I was trying to show there is, that it is on the extreme edge of the channel with a very small minute net pay or sand, period, net pay.

Q Now, is this isopach map, Exhibit Number 1, supposed to be a map showing the net pay or just sand thickness?

A It is net pay.

Q It is net pay?

A Predominantly net pay, yes.

Q How much net pay do you attribute to the Marathon well in Section 32?

A Well, it is so minute, it is hard to detect. It would be less than five feet.

Q The zero line, then, should go to the north and east

of that well instead of on the other side of it as shown on the --

A Well, technically, you could move it over two sixteenths of an inch, I guess.

Q Well, am I correct --

A Yes, I would not say there is any -- there is no net pay there at all, otherwise it would be a producer. It is a dry hole.

Q Well, what control did you use for drawing the zero foot contour interval on this map, continuing through Section 32?

A You understand, this heavy red line is merely to show what I think is the outline of that channel.

Q Yes, sir, but I also understand, correct me if I am mistaken here, that this proports to be an isopach map showing the limit of the net pay --

A Yes.

Q -- in this area?

A Yes.

Q And you have drawn a zero foot contour line here --

A Yes.

Q -- that proports to show the limit of the net pay. Now, what control did you have for drawing that zero contour

line?

A Well, a natural extension or deletion of the spacing of the contours, you know, to the west, just the same as any other contour is made on any map.

Q I am sorry, I don't really understand you here, Mr. Landenberger, What control -- are you saying that you have some control for the thirty or forty foot line and --

A Yes, sir.

Q --extended that on out to where you think the zero line should be?

A See the Nix well in the southeast quarter of Section 29, drawing a line from that well down to the Ohio Number 1 Nix and Curtis Well, would go from zero to sixty, and it is just a matter of spacing the contours from that well down to the Ohio Number 1 Nix and Curtis Well. And also keeping in mind the appearance of the contours to the north, making it fairly equal, as the channel would be.

I am really trying to outline these channels in showing what I believe is the approximate net pay of all the wells in the field. I am really trying to show where the channels are located.

Q Now, I believe you agreed with me a minute ago, that the zero foot contour line should actually be somewhat

to the north and east of the Ohio Nix and Curtis Well Number 1, is that correct?

A What was that again, please?

Q Your zero foot contour line shown here, should be somewhat to the north and east of the Ohio well in Section 32?

A Well, technically, there was approximately five feet of sand, as shown on the log. You see, there was five feet of sand.

Q Sand but not --

A Net pay would be zero in this well.

Q All right.

A If you wish, you could run the zero line right through the center of where I have the well drawn and then right down south, well, like I have it.

Q Now, actually, from a geologic standpoint, you should run that zero line somewhat to the north and east of the well, should you not? You wouldn't run it right through the well, you should run it somewhat to the north and east of that well?

A No, sir, because there was some sand present in the well. I would put it directly through the well. I think that is just the extreme edge of the channel itself.

Q You are thinking that that well just actually picked

the exact limit of the net pay?

A I surely do, because wells have been made with slightly over five feet of pay in the channel. Fairly good wells have been made with just as little as ten feet of pay.

Q Now, looking at the contour lines that run through Section 32, I still am a little bit in the dark here, Mr. Landenberger on --

A All right.

Q -- what control you have for the location of any of those lines, the sixty foot line, the fifty foot line, the forty foot line, on down, and maybe I am dense, but I would appreciate it if you would tell me --

A All right.

Q -- exactly what control you have for the lines as they are shown in Section 32.

A Like I told you before, a channel runs at right angles to the regional dip. You understand that?

Q Yes, sir.

A And you can see how I have drawn the channel, it is at right angles to the regional dip, that we know.

Q So you are proceeding upon that assumption, without any actual control in that --

A Yes, the only control I have is the Ohio Nix and

the Leland Fikes or the Cleveland in Section 33, and the channel goes between those two wells. And a channel doesn't restrict itself at the end of itself all at once for any reason normally. I have no reason to sweep it off to the right, left, cut it off, or anything. This proposed location is actually closer to the better wells than Mr. Mayer's most recent well, which is also directly in the center of the channel.

Q Actually what you are saying, Mr. Landenberger, is that your contours shown in Section 32 are almost entirely interpretations?

A Except for the fact that I have the two wells, the Nix and Curtis Well and the Cleveland Well for control, which are on either side of the proposed location.

Q Now, as far as the well in Section 33 is concerned, you can't tie in your contours around any sort of a channel to tie it back into 33? You can't tie your contours in 32 into your contours in 33, can you?

A Yes, sir, we had eighteen feet of sand in the well in Section 33, and it would just go from one edge of the channel to the other, and a channel wouldn't come up, going away from the shore, it would go down, so the thickness across the center of the channel would be approximately the

same as the better wells in Section 29.

Q Mr. Landenberger, what would be the orthodox location for a well in the east half of Section 32?

A Well, according to field rules, the way I understand, it would be in the southeast quarter.

Q And where in the southeast quarter would be an orthodox location, under the field rules?

A Let's see, I believe it is 990 from any, from the section line and no closer than 330 to the inside lines.

Q All right. Now, using your Exhibit Number 1, would I be correct in saying that a well could be located at an orthodox location in the southeast quarter of Section 32 on approximately, at a position that you would expect to have twenty-five feet of net pay in the well?

A Yes, sir, with reservations.

Q Well, I am saying according to the interpretation here that you have shown to the Commission by Exhibit Number 1, a well located there would, you would expect to encounter twenty-five feet of net pay?

A Yes, sir. You will note and remember though, that the east or west side of our channel shows shaliness. I would prefer to get away from this shaliness so we wouldn't be restricted as to porosity and permeability in that location

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there. I would prefer to get more in the center of the channel.

Q Now, actually if you wanted to crowd your well as close as you could, 990 feet out of the northeast corner of the southeast quarter, you would actually be in a position where you would have thirty feet or better of net pay, would you not?

A Oh, I see, you mean you would be in the --

A At an orthodox location, the best orthodox location you could pick on this map, according to your interpretation, would give you something better than thirty feet of net pay in this well, would it not?

A Yes, sir.

Q There are a great number of wells in this field that have been completed and are producing with less than thirty feet of net pay, are there not?

A Yes, sir, There again, our main problem is to stay away from the shaliness that we know occurs on the west side of the channels. If this were a large field, say, like the Indian Basin, orthodox locations could be continuously carried out very well, however, this is a very small restricted field and that is why I believe that unorthodox locations are necessary

on the limits.

Q Do you believe that the southeast quarter of Section 32 is capable of yielding commercial production?

A Yes, but it would be restricted in comparison with the better wells in the field, restricted in permeability.

Q Now, how do you define commercial production, Mr. Landenberger?

A Well, sufficiently to give the operator a profit.

Q Pay the cost of his well and yield a reasonable profit?

A And yield a reasonable profit.

Q Do you believe that a well drilled in an orthodox location in the southeast quarter would yield commercial production?

A I don't think that is predeterminable.

Q I am asking in your opinion, is that your opinion?

MR. KELLAHIN: I submit that the witness answered the question.

A I don't think it is predeterminable, no, sir.

Q You are saying you have no opinion?

A No, sir. I don't think that I could tell you in advance whether a well drilled there would be profitable or not. If you will excuse me, if you wish, I will redraw this

one line for you on the exhibit.

Q Well, Mr. Landenberger, let's assume that you did redraw the zero foot contour interval, you would have to place it somewhere around where you have, I would say, at least, the ten foot contour interval on this map, would you not?

A Yes, sir.

Q You would have to bring the zero foot up to the ten foot?

A Yes, sir.

Q That, in turn, would crowd all of those contourings up to the north considerably, would it not?

A No, sir.

Q Well, how are you going to get away from crowding them up if you move the zero foot contour up to where the ten foot is?

A Like I say, I will be glad to redraw it for you and I will show you any -- whatever --

Q Mr. Landenberger, all I am asking you is, are you saying that the interpretation you have shown here on your Exhibit Number 1 is your opinion of the net pay in this Section 32?

A Yes, along with logs and other geologists in the area and my experience in the field, and proven by the producing wells and the dry holes and so forth.

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Q And yet you admit that there was not net pay in the Ohio Well Number 1 in Section 32?

A No, this log is in evidence and you can see how skinny the pay or the sand itself even is in evidence, or is not in evidence.

The main thing I have tried to show is to show the channel, the direction, true direction of the channel and the fact that it has maintained a constant width in the direction from its beginning somewhere up at the northwest, down to the southeast, and to show that the channel does go through the most or the best proposed location.

Q Now, Mr. Landenberger, according to your Exhibit Number 1 here, I think we have already established that a well located at an orthodox location could pick up as much as forty feet of net pay. Actually, by moving to the north to your proposed location, you are picking up an additional twenty feet of net pay, is that correct?

A No, sir, I wouldn't say you would get forty feet, I would say more like thirty-five at the better, best location. With moving to the north, you would get slightly over sixty feet of pay at the proposed location. But the expense of a well of this type, it would be better to stay as near the center of the channel as possible, which is true, which would

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be our case in the proposed location.

Q Now, Mr. Landenberger, I think you said at the outset that you had not made any study of the exhibits that were offered in any of the other cases that have been presented to the Commission for unorthodox locations, but are you familiar with the fact that there have been cases, other cases --

A Yes, sir --

Q -- in this field --

A -- there are other unorthodox locations, I realize that. I have seen other geologists' work, but none that has been presented in the cases.

Q You just made no study of that?

A No study of the cases, no, sir, just other geologists' work in the area.

Q All right.

A Just the normal sequence of events in the area.

Q Are you familiar with the fact that the Applicant in this case, Mr. Mayer, has an unorthodox location in the southwest quarter of Section 28?

A Yes.

Q And that there is an unorthodox location that is a direct east offset to the same Marathon well that is being

crowded by your proposed location in this case?

A That just shows you again how important it is to be near the center of the channel, just one location to the east almost ruined a well.

Q Now, Mr. Mayer's well in Section 28, is an extremely marginal well, is it not?

A Yes, sir.

Q Now, do I understand that you have not made any study of the application or the exhibits that were presented to the Commission in connection with Mr. Mayer's application for an unorthodox location for that well?

MR. KELLAHIN: If the Examiner please, I object to the question. It has been asked and answered, not only once, but four or five times.

A Well, I might add that I have studied this area quite extensively , but the only -- in answer to your question, I have not looked at any of the works prepared for these cases, but the area, I have studied extensively.

Q Are you familiar with the fact that the Standard Oil Company of Texas has an unorthodox location in Section 15, up at the north end of the pool?

A Yes, sir.

MR. NUTTER: I think you mean Section 14 --

THE WITNESS: 14.

MR. NUTTER: -- don't you, Mr. Morris.

A That is a regional well, I don't even have that on my map.

MR. MORRIS: It is very distinct in quotes.

MR. NUTTER: No, that would be your thirty-eight foot well there, that is unorthodox because that is in the southwest quarter.

THE WITNESS: That is the original discovery well in the field, so it wouldn't be orthodox, unless by chance.

Q (By Mr. Morris) Are you familiar, Mr. Landenberger, with the unorthodox location that Marathon drilled with a seventy-five percent allowable, acreage allowable in Section 30?

A Yes, sir.

Q As I understand your application, Mr. Landenberger, you are not proposing that any action be taken by the Commission to restrict the allowable to be assigned to the well at your proposed location?

A That's correct. I believe the entire east half will be productive, except that the location of the well would be much better porosity, permeability-wise in the proposed location, as against the orthodox location.

Q Is it your testimony, Mr. Landenberger, that Len Mayer is not going to obtain any advantage over other operators in the pool by virtue of this unorthodox location?

A Yes, sir.

MR. MORRIS: I have no further questions.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Landenberger --

A Yes.

Q -- if we assume that your contour lines are right, then we would leave them where they are. Now, if we follow your contour, say, twenty foot from the south, extreme south-east corner of Section 32, and go northwest on that, we get into this crosshatched area, which you said is tight?

A Yes, sir.

Q All right. If we draw an imaginary line, then, between twenty and thirty, which would be a twenty-five foot line --

A Yes, sir.

Q -- and extend that from the extreme southeast corner of 32, on up into Section 30, that twenty-five foot line would also be what is designated as tight sand?

A ~~Again it~~ is undeterminable only in that the well

location itself --

Q I am projecting that, a line in between your twenty and thirty foot line and I am projecting your tight zone.

A No, sir. If you will notice, a projection of that type, the further southeast you would go, you would come closer and closer to the center of the channel, which would become cleaner. This well is located on the extreme west edge of the channel. Now the well itself was shaley and tight, but I don't think you could project along this --

Q Well, we would be on the west side of the channel --

A Yes, sir.

Q -- if we went down here into the southeast corner of Section 32, we would still be on the west side of the channel, wouldn't we?

A Not as far west as the Nix well, sir. You would be a little more centrally located to the center of the channel. I think, if I am following you along all right, I mean, if you follow this contour line here that curves into the east, you will just slowly swing more into the center of the channel, see. Actually, I imagine that it would become shaley and then less shaley as you get towards the center of the channel.

Q Well, if we assume that the channel extends to the

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southeast, and you said you had no reason to believe that it --

A Yes, sir.

Q -- doesn't extend to the southeast. Well, then, the heavy red line is still on the west side?

A Yes, sir.

Q And the adjoining pink shaded area being --

A The channel itself.

Q -- the channel itself, you are still going to be on the west side of it if you extend the channel southeast?

A Well, it is a gradational thing. It is extremely shaley on the extreme west edge and becomes cleaner towards the center of the channel on either side.

Q But the sides stil remain shaley?

A Yes, sir, as evidenced by these two wells that were shaley and tight.

Q And over on the east side of the channel, there with the Cleveland well, it showed eighteen feet of sand, evidently?

A Yes, sir.

Q But it was tight and completed as a dry hole?

A Yes, sir.

Q So we have an area there of tight sand, with thick tight sand and over here we have five feet of sand which is tight,

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and evidently, the shading extends on up to, well, even up to the thirty foot line in the southeast corner of Section 30. So, what is wrong with extending the tightness, extending the shading down here into the southeast corner of Section 32? It would follow the method that you have used in Section 30, in the northwest of 32 and also the northeast of 33.

A Well, these wells are on the extreme edge. That's all I was trying to show, is that these wells, themselves, were shaley and tight.

Q And a well in the southeast corner would be on the extreme edge too, would it not?

A Well, not as far in, sir. The --

Q It would be far enough in that you would choose not to drill there, however?

A Yes, sir. The porosity would be clearly there, but I don't think it would be as good as the well to be drilled in the proposed location.

Q Well, if the Commission should find it necessary to adjust the allowable for this well if they approved the location, what would you recommend for the procedure for the adjustment of the allowable? I am assuming the Commission would approve the location and find it necessary to adjust the allowable.

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A Well, at the present, I personally -- I believe that the entire east half is productive. It would be rather difficult, there is not too much control down on the south end, but projecting the channel like I have, I would say --

Q Would it be unreasonable for the Commission to accept your contour lines, in your opinion?

A Yes, sir.

Q It would be unreasonable for us to accept the contour lines?

A No, I want you to accept them, that is what I mean.

Q Would it be unreasonable for the Commission to accept your shading?

A Well, there again, with a reservation, sir. What I meant was, this shows the actual well, that well, and I have no way of knowing how far to extend this tightness except that apparently, just on the extreme edges, where the channel finally filled, is where we get our shaliness and tightness, that is the only thing I would want to show with these markings. That is all I wanted to show.

Q So you have no recommendation for us as to the manner in which we should adjust the allowable?

A Except that I believe you can accept -- this one well, the Ohio Nix and Curtis, I believe I could have moved

my zero line a little closer to the well, because on the extreme edge it is very difficult. But, I do believe in the main, my contours on the east half, for projection, trying to be similar to the extent of the channel to the north, are equitable, I believe. I don't think I have done an unfair job in extension.

MR. NUTTER: Are there any other questions of Mr. Landenberger?

MR. KELLAHIN: I have no more questions.

MR. NUTTER: If there are no further questions, the witness may be excused and we will take a fifteen minute recess.

(Witness excused and a short recess was taken.)

MR. NUTTER: The hearing will come to order, please. Mr. Kellahin, did you have another witness?

MR. KELLAHIN: Yes, I would like to call Mr Mayer. LEN MAYER, called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Len Mayer.

Q Mr. Mayer, are you the Applicant in Case Number 3632?

A Yes, I am.

Q Have you been operating in the Atoka-Pennsylvanian Pool?

A Yes, sir, I have.

Q For how long?

A Since the discovery well, or I have been working in --
I drilled the first well in 1960.

Q How many wells have you drilled in there?

A I am interested in five wells.

Q What business, generally, are you engaged in, Mr. Mayer?

A I am an independent producer.

Q And do you have other production in southeastern New Mexico?

A Yes, I do.

Q Do you have any experience with Pennsylvanian production, other than in the Atoka-Pennsylvanian Pool?

A Yes, but it would be in the form of oil, in the Bough C formation in northeast Lea County.

Q Now, how many wells do you have an interest in in the Atoka-Pennsylvanian Pool?

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A Five wells.

Q And have you made any study of the area in connection with the application now before this Commission?

A Yes, a quite thorough study.

Q Did you recently complete a well in the northern portion of the pool?

A Yes, I did.

Q What was the location of that well?

A It was 1650 feet from the north, 990 from the west of Section 20.

Q And what did you learn from drilling that well?

A Well, first off, as Mr. Landenberger testified, I have always supported the fact that there is a channel sand in this field. There is a lot of people that don't -- that didn't believe it, and by virtue of that, this last well, I think, substantially proves the fact that a channel sand does exist in this particular area.

Q Now, in that connection, Mr. Mayer, did you file an application for an unorthodox location in a previous case?

A Yes, I did.

Q Has your interpretation of the area changed subsequent to that application?

A Yes, in some respect , yes.

Q On what did you base these changes?

A This past well that I drilled, I expected to get a channel sand. I anticipated approximately twenty-five to thirty feet of sand in the location that I drilled in Section 20, and fortunately, when I drilled the well in, I encountered fifty-six feet of sand, one of the biggest Morrow sand wells in southeast New Mexico.

Q And is that a good well?

A An excellent well.

Q What experience did you have in connection with the pressures in that well?

A Well, the virgin pressures in the field, when we drilled the original Dayton-Townsite Number 1, were approximately 3100 to 3200 pounds, bottom hole pressure, initial. And on "DST", as well as by bomb, pressure bomb, when I completed the Number 1 Irene Brainard, the bottom hole pressure was 2508, a drop of approximately 750 pounds, bottom hole pressure.

MR. NUTTER: When was it drilled?

THE WITNESS: I completed the well on the 7th of April of this year.

Q (By Mr. Kellahin) Now, does that indicate anything to you in connection with the drainage in the area?

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A Oh, yes, where that there is excellent drainage.

Q What is the closest producing well to that well?

A Well, the Ohio-Nole Well, which would be now the Marathon-Nole, which is approximately three quarters of a mile away. In fact, the well that I drilled the Brainard on, is a farmout from Marathon Oil Company. They did not believe that the channel was there, I guess, but anyway, that is neither here nor there.

Q Now, Mr. Mayer, in connection with your application, you are asking to move to a northern portion of the unit. What area do you propose to dedicate to the well?

A The east half of Section 32.

Q And where do you propose to locate the well?

A 990 from the north and east of Section 32.

Q Now, why did you pick that location?

A Well, as substantiated by Mr. Landenberger's testimony, I am in the area of best control, in that on either side of me, I have excellent control defining what I think is the channel, as well as to the north, one of the biggest wells in the field, the Ohio-Nix Well, is what I think substantially draining where my proposed location is.

Q Well, now --

A If for instance, say, moving down into an orthodox

location, I move away from my control, and there could be some doubt as to the -- I don't think there is much doubt where I am right now, and it could be, add substantially to my risk to move into the southeast quarter and away from my area of control.

Q Now, in your opinion, is the entire east half of the section productive of gas from the Atoka-Pennsylvanian Pool?

A Yes.

Q What specific reason do you have for not wishing to drill in the southeast quarter?

A Well, particularly, the risk involved.

Q What does an Atoka-Pennsylvanian well cost?

A Completed, about one hundred and fifty to one hundred and sixty thousand dollars.

Q Now, in the event you are authorized to drill in the northeast quarter of the section, will a well so located effectively produce the gas in the east half of the section?

A In my proposed location?

Q Yes, sir.

A Yes, sir.

Q Now, you mentioned that some well was possibly draining this area, what well was that, Mr. Mayer?

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A The Nix Well, located, I think it is in the southeast quarter of Section 29. It has sixty-two feet of net morrow pay and I feel that it is substantially draining my leashold.

Q Now, would a well located in the southeastern quarter of the section protect you against this drainage?

A Not adequately, I don't believe. I might add, the reason, and I say area of control, take an example, the Mallard-Mayer-Holt Well, which I drilled four years ago, we caught what I consider the extreme limits of the channel and graded in a very shaley, tight formation. We had to stimulate the well quite heavily to even get it to produce, and just recently, had to install a compressor to buck the main line pressure to produce the well. And I think we will probably just barely recover our investment, and I don't know but what two hundred feet further west, we probably would have made an excellent well. But, it just graded into a tight situation.

Q Now, is that your reason for wishing to drill at the location you now propose?

A Yes.

Q Suppose you moved it two hundred feet to the east or west, would that improve or --

A I think I have located what I call a channel deep

in what I consider geologically and economically the best location.

Q Now, Mr. Mayer, you are familiar with the other unorthodox locations in the pool, are you not?

A Right, yes, sir.

Q You are aware of the fact, for example, that Standard Oil Company of Texas received approval of an unorthodox location together with a curtailed allowable?

A Correct.

Q Now, what is your feeling as to whether the well, if it is approved as applied for here, should have a curtailed allowable assigned?

A I don't feel that I should be, if I were granted this unorthodox location, that I should have in any way, be curtailed on my allowable. I don't think and I don't believe there can be any testimony to the fact that the full east half is productive, or is not productive. As I say, you move down to the south, you move away from your point of control, so that I can see nothing that would dispute the fact that it is all productive. So, I don't feel that I should be penalized.

MR. KELLAHIN: That's all of the questions I have of the witness.

MR. NUTTER: Are there any questions of this witness? Mr. Morris?

CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Mayer, you were referring in your testimony to your most recent well completed in the northwest quarter of Section 20, and I believe you said that you had encountered fifty-six feet of sand in that well, is that correct?

A Yes, sir.

Q Now, was that the gross sand interval in that well?

A That is the sand interval off the electrical, or the "ES" log, and that is normally what we perforate off of.

Q How much of that fifty-six feet do you deem to be net pay?

A All of it.

Q All of it?

A Yes, sir.

Q Now, have you analyzed your log to determine whether all of that sand is contributing to the net pay in this well?

A Well, I ran three sets of logs. I ran a micro log, an induction electrical and a gamma ray sonic log. That is the three tools that were available. I did not core it, but I did "DST" it, and from drilling breaks, which we encountered

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when we drilled the pay section, plus I had a gas analyzer on the well, and using all of that together, I came up with that figure, yes.

Q Now, the drillstem test that you ran on this zone, did that cover the entire fifty-six foot area?

A Yes, in fact, more. We drilled all the way through and I drilled another ten feet until we encountered a hard spot so that I was sure that I was through the whole pay. Of course, at that time, I had no log, all I had was my drilling information.

Q Did you make any selective drillstem tests of the smaller intervals of the fifty-six foot pay section?

A No, no we tested the entire drilling break.

Q Have you, since having logs available to you, have you taken those logs and analyzed the logs to determine if the entire sand section has sufficient porosity to contribute to the net pay in this well?

A Oh, yes.

Q You have?

A Yes. In fact, in addition to that, I hired a professional engineer and had him make a reservoir study of my well to determine the value of the well based on the pay.

Q I believe you said that you wanted to drill at

your proposed location for the very obvious reason, that it, according to your Exhibit Number 1 in the case, it is -- you expect that you will encounter a greater section of net pay at that location than at any other location in Section 32, is that correct?

A Yes, sir.

Q At that location, you will be draining gas from Section 29, will you not?

A Well, I am contending that the well in 29 is draining 32, so I would say conversely, if I drill a well in 32, I should be getting part of -- if I get into the reservoir, yes, I think I would be.

Q I believe you said that you were familiar with the Standard of Texas application, and you are familiar that that unorthodox location did receive a reduced allowable?

A That is my understanding.

Q In preparation for this case, did you make a study of the exhibits that were offered in the Standard of Texas case?

A No. I feel that my deal must stand on its own and has no relation whatsoever to the Standard of Texas case, or even my previous application. I think each particular deal -- this is a very unusual field, in that even though it is a

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prorated field with standardized location, it is not like most gas fields in that it is not a blanket sand. And, therefore, to effectively produce it, that is the reason I am asking for this unorthodox location.

Q So, I take it, that you did not consult any of the previous interpretations of the, or isopach maps that have been introduced in any previous cases presented to the Commission for unorthodox locations in this pool?

A Well, first off, I leave that up to my attorney, as regards to consulting previous cases.

Q Yes.

A I am familiar with other interpretations of the field, particularly, I might add, it is in the New Mexico Geological Society Symposium, their latest addition, almost -- I would say their interpretation is considerably like this. But I asked Mr. Landenberger to prepare this strictly for the purpose of me drilling it, and his interpretation, and so happens to be my interpretation also.

Q You agree with his interpretation?

A Yes, I do. That is how come I drilled this one up here.

Q Are you familiar with the application that was filed by Marathon in connection with the well that was drilled

at an unorthodox location in Section 30?

A No, sir, I am not.

MR. MORRIS: Let me say here, I neglected to say when I was talking to Mr. Landenberger, that I am representing Marathon by this case.

THE WITNESS: I assumed that you probably were.

MR. KELLAHIN: We had suspected this.

Q (By Mr. Morris) In addition to the "B" sand in this field, are there other sands that are contributing to the net pay?

A In about two wells that I know of. One of them, the Len Mayer -- Yates Petroleum-Len Mayer Number 1 is producing from the "C" sand. The "A" sand is non-productive in the field. And I don't know -- I think the "C" produces in another well, or has been perforated at the same time. No one really knows because it was not individually tested. I know it was in the Yates-Len Mayer because we tested it separately, but other than that, it contributes very little.

Q Do you expect to find any net pay in any of the other sand intervals at your proposed location?

A Let me say that we will certainly look at it closely, and if so, I will test it and attempt to evaluate it, if it looks productive.

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Q You are saying that there is a possibility of it, then?

A There could be, yes. I wouldn't discount the possibility that there would be.

Q And that same possibility would exist at an orthodox location, would it not, in the southeast quarter?

A It could. It is just -- it is undeterminable. At this time, I am primarily shooting for the "B" sand because it is the main pay.

Q Now, you say, Mr. Mayer, that you agree with Mr. Landenberger's interpretation. I take it, then, that you agree that if you drilled a well at an orthodox location in the southeast quarter of Section 32, that you would hope to experience thirty feet of net pay in your well?

A Between twenty and thirty feet, yes, sir.

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

MR. NUTTER: Are there any further questions of Mr. Mayer?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Mayer, do you have a recommendation to make, in the event that the Commission should approve the unorthodox location and find it necessary to adjust the allowable, do

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you have any recommendation to make as to the manner in which the allowable should be adjusted?

A No, sir, I don't. I don't feel that --

Q I realize that you don't think that it should be, but I say, in the event that the Commission should find it necessary?

A No, sir.

MR. NUTTER: That's all I have. Thank you very much. Are there any further questions of Mr. Mayer? He may be excused.

(Witness excused)

MR. NUTTER: Do you have anything further, Mr. Kellahin:

MR. KELLAHIN: That's all I have at this time, Mr. Nutter.

MR. NUTTER: Did you have any witnesses, Mr. Morris?

MR. MORRIS: Yes, we have one witness. I ask Mr. Alton to stand and be sworn, please.

(Witness sworn.)

CLYDE E. ALTON, called as a witness on behalf of Marathon Oil Company, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. MORRIS:

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Q Mr. Alton, please state your name, where you live, by whom you are employed and in what capacity.

A My name is Clyde E. Alton, I live in Houston, Texas, I am employed by Marathon Oil Company in the capacity of Staff Engineer in the division office.

MR. NUTTER: Is that A-l-t-o-n?

THE WITNESS: Yes, sir.

Q (By Mr. Morris) Mr. Alton, what is your familiarity with the Atoka-Pennsylvanian Pool in Eddy County, New Mexico?

A I have studied the logs and the cores within the pool. I have studied other studies which have been made within the pool since the discovery well was drilled. Essentially this is it. I am fairly familiar with the pool itself. We realize that it is not a structure pool, there is no structural closure. We agree that it is a lens type pool.

Q Mr. Alton, have you previously testified before the Commission or one of its Examiners?

A No, sir, I haven't.

Q Would you state, just briefly, your education and your experience in the oil industry, petroleum industry?

A I obtained a Bachelor of Science Degree in Petroleum Engineering from the University of Oklahoma in 1950. I went

to work for Marathon Oil, at that time Ohio Oil Company, in July of 1950. I have been with Marathon since that time in various capacities, as Area Engineer, Hobbs, New Mexico, Seminole, Texas, Iraan, Texas; District Engineer, Bay City, Texas, Gulf Coast. I spent two and a half years in Tripoli, Libya with Marathon, and I am presently in their division office in Houston.

MR. MORRIS: Are the witness's qualifications acceptable?

MR. NUTTER: They are, please proceed.

Q (By Mr. Morris) Mr. Alton, are you familiar with the other non-standard, unorthodox locations that exist in the Atoka-Pennsylvanian Pool?

A Yes, sir, I believe I am.

Q And, are you especially familiar with the application that was made by Marathon for an unorthodox location in Section 30?

A Yes, sir.

Q Are you familiar with the exhibits that were offered in that case?

A Yes, sir, I am.

Q And with the testimony that was presented in that case?

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A Yes, sir.

Q In preparation for this hearing, have you particularly reviewed all of the evidence available at the present time and from the hearing that was presented on the Marathon Application, concerning the productive limits of this pool and particularly as it pertains to the proposed location?

A Yes, sir.

Q And based upon that study, have you prepared an isopach map showing your opinion of the productive limits of this field?

A Yes, sir, I have.

Q May I ask that you have that marked as Exhibit Number 1 in this case.

(Whereupon, Marathon's Exhibit Number 1 was marked for identification.)

Q If you would refer to what has been marked as Exhibit Number 1, would you state what that is and what it shows?

A This is an isopach of the "B" sand porosity. It shows the location of all the wells in the area with which we are concerned. It shows the unorthodox location as proposed by Mr. Mayer and it is colored red. It shows my

interpretation of the zero isopach line also, surrounding the field in this particular area.

Q Does this interpretation differ substantially from the interpretations that previously have been submitted to the Commission and the Commission's Examiners in previous applications for unorthodox locations?

A Yes, sir, it does. It differs in Section 30. It differs, also, in Sections 19 and 20, due to the fact that Mr. Mayer has made a successful completion in Section 20 in his, I believe it is Irene Brainard Number 1.

Q Does it differ with respect to the interpretation of the zero contour line in Section 32?

A In Section 32 there is very little difference from the previous exhibits.

Q May I ask you, in particular, what previous exhibits you are referring to when you are making that comparison?

A This is Exhibit Number 6, Case Number 2628, Denovo.

Q That was the application of Marathon for an unorthodox location in Section 30, is that correct?

A Yes, sir, that is correct.

Q This exhibit was prepared prior to the application of Mr. Mayer in this case, is that correct?

A That's correct.

Q May I ask you what other exhibits you were referring to, from which you were drawing the comparison?

A This is Exhibit Number 1, Case 3420, Atoka-Penn field.

Q And did that concern the application of Standard Oil Company of Texas?

A It did.

Q Does the interpretation that you have shown to the Commission, as far as the isopach in Section 32 is concerned, differ substantially from the interpretation shown on that exhibit?

A It differs only very slightly.

Q All right. Do I understand you now, Mr. Alton, that the interpretation as shown on our Exhibit Number 1 in this case, reflects your present opinion of the correct depiction of the net pay in the Atoka-Penn Pool in Section 32?

A That is correct.

Q Have you plenimetered this to obtain an exact acreage figure that you estimate to be within your zero foot contour line?

A Within Section 32?

Q Yes, sir.

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A No, sir, I haven't

Q Could you make an estimate of the amount of acreage within that zero foot line?

A I would estimate, possibly a hundred acres.

Q And how much of that hundred acres would be in the east half of Section 32?

A Sixty acres.

Q When was this Exhibit Number 1 prepared, Mr. Alton?

A This was prepared by me, the exact date I am not sure of, but last week.

MR. MORRIS: We offer Exhibit Number 1 into evidence.

MR. NUTTER: Marathon's Exhibit Number 1 will be admitted in evidence. Are there any questions of Mr. Alton? Mr. Kellahin?

MR. KELLAHIN: I would like to ask a question.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q Mr. Alton, you have made reference to Marathon's application for an unorthodox location in Section 30, when was that case heard?

A Yes, sir, that was, I believe, September the 11, 1962.

Q That is some five years ago, then.

A Yes, sir.

Q Do you know how many wells had been drilled in the pool at that time?

A I believe the only one that hadn't been -- that, possibly two that hadn't been drilled at that time, were Mr. Mayer's Brainard well in Section 20, and the Standard of Texas well, on which they got an orthodox location.

Q Did you have anything to do with preparing the Exhibit Number 6 in Case 2628', Denovo?

A I did not.

Q Had you examined it prior to this hearing?

A Just a couple weeks prior to this hearing.

Q Assuming, Mr. Alton, that that was a correct interpretation, the Len Mayer well in Section 20 would be in a worse position than their proposed unorthodox location in Section 32, would it not?

A Let's see, the Len Mayer location in Section 20 --

Q Yes, sir.

A -- would be in a worse position than their proposed location in Section 32? Yes, sir, according to this, it would be.

Q And subsequent to the drilling of the Len Mayer well and other wells in the area, you changed the interpretation insofar as Marathon is concerned. I won't say that you changed

your own interpretation. You hadn't made a previous one, had you?

A That's correct.

Q But Marathon has changed its position through your interpretation from Exhibit Number 6 in Case 2628?

A We certainly have.

Q And changed it drastically insofar as the northern portion of the pool is concerned?

A We certainly did, because this gave us a point of control which we didn't have before.

Q And you don't have any point of control to the south, do you?

A We do not have any points of control to the south other than the two dry holes in Section 32 and 33.

Q And you have the dry hole in Section 32, which was drilled by Marathon, was that well tested at all?

A That well was tested and we just didn't have any porosity in that well at all.

Q Did you get any show of gas at all?

A I don't know.

Q You don't know whether there was a show of gas or not?

A I am not sure whether there was a show of gas or not.

Q You show the Mayer well in Section 28 as falling

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between your zero contour and the ten foot line, Section 28?

A Yes, sir.

Q That is a producing well, is it not?

A Yes, sir, it is a marginal producer I understand.

Q And that would indicate, then, in your opinion, his proposed location would be a marginal producer? It is approximately the same position on your contour, isn't it?

A That is correct. It should pick up a few more feet of net pay, but essentially it would be, yes, sir.

Q And you say, in your opinion, Mr. Mayer, his acreage in the east half of Section 32 has approximately sixty acres of net pay --

A This was an estimate --

Q -- or sixty acres of pay?

A This was an estimate. It may be more, it could be a hundred acres.

Q If he is going to recover his gas under Section 32, the only place he can drill is in the northeast quarter, isn't that correct?

A If there is any gas under his Section 32, that is correct, he must drill to recover it.

Q He would have to drill at that point?

A Well, not necessarily at that point, but he would

have to drill in that quarter, yes.

Q In your opinion, a well in the southeast quarter would be a dry hole?

A In my opinion, it stands a very good chance of being dry.

Q Now, have you made any study of the pressure information on this reservoir?

A I have only studied the pressure information that -- let me put it this way, Mr. Kellahin. I have, the pressure information since 1964, I have made a study of.

Q On the basis of the study you made, will one well drain in excess of three hundred and twenty acres?

MR. MORRIS: I object to the question. I think that we are not here to dispute the special rules that have been established in this pool, but merely to take into account whether an exception should be granted, and if so, what restrictions should be placed on it.

MR. NUTTER: The objection is overruled. Would you answer the question?

A Would you repeat the question, please?

Q (By Mr. Kellahin) In your opinion, on the basis of your study of the pressure information, will one well drain in excess of three hundred and twenty acres in this pool?

A In my opinion, one well will drain three hundred and twenty acres.

Q Will it drain more than three twenty?

A It is a possibility.

Q Now, you have also made reference in your testimony to Exhibit Number 1 in Case 3420, which was the application of Standard Oil Company of Texas, had you examined that exhibit prior to this hearing?

A No, sir, I had not.

Q Actually, the case wasn't even concerned with the area we are talking about here, was it?

A It is within the field. It is removed from this particular area, that is correct.

Q Their interpretation shows it as a separate portion of the field with some degree of separation between the two reservoirs, does it not?

A They do not have the reservoirs separated, no, sir.

Q There is no development in between the two areas, is there?

A Well, now, may I ask which area you are referring to?

Q I am referring to the area to the northeastern part, lying in Sections 11, 14, 15, 22, 21 and 28, as compared to

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the area we are talking about in Len Mayer's application.

A All right. Now, would you repeat your question, please?

Q There is no development in between the two areas as shown on their exhibit, is there?

A Their exhibit shows the two areas to be connected.

Q That doesn't answer my question quite.

A Well --

Q Is there any development in between the two?

A In my --

Q Let us --

A In my opinion there is. The Yates-Mayer well in Section 28 and the Yates-Gushwa in Section 21; they aren't right in the neck here, but they are in this vicinity.

Q But the, insofar as you know, there was no particular study made by Standard in the Section 32 in connection with their case, involving a well location in Section 15, was there? Do you know?

A To my knowledge, Standard made no such study.

Q It is merely offered because it more or less agrees with your interpretation, is this correct?

A This is two interpretations that essentially agree; one being done for an area of the field completely apart,

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we will say, from this area.

Q And again, it would show that Mr. Mayer would have drilled a dry hole in the northwestern quarter of Section 20, wouldn't it?

A In the northwest quarter of Section 20? Yes, sir, it would.

Q And he didn't drill a dry hole there, did he?

A No, sir, he didn't.

MR. KELLAHIN: That's all I have. Thank you, Mr. Alton.

MR. NUTTER: Are there any other questions of the witness?

MR. MORRIS: No questions.

MR. NUTTER: The witness may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Morris?

MR. MORRIS: Yes, Mr. Examiner, I would like to ask the Commission to take administrative notice of the orders that it has entered in the previous cases having to do with unorthodox locations in this field.

And specifically, I ask the Commission to take administrative notice of Order Number R-1931 entered in Case

Number 2224, which was the application of Len Mayer for an unorthodox gas well location in Section 28.

I also ask the Commission to take administrative notice of Order Number R-3087 entered in Case Number 3420, which was the application of Standard Oil Company of Texas for the unorthodox gas well location. This order refers to the location as being in Section 15.

I also ask that the Commission take administrative notice of the Order Number R-2399 entered in Case Number 2628, which was the application of Marathon Oil Company for an unorthodox gas well location in Section 30. That was the order entered following the Denovo hearing. I hand copies of these orders to the Examiner.

MR. KELLAHIN: If the Examiner please, of course it has been customary for the Commission to take notice of its own orders and from that point of view, we certainly have no objection to the Commission reviewing any orders that exist in its records, but these orders, presumably, are being offered as a basis for some conclusion that a curtailed allowable should be assigned, I assume. If Mr. Morris wishes to state whether I am correct or not, why, I would be happy for him to do so.

MR. MORRIS: Yes, I will be happy to state why

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they are being offered. I think the Commission always is interested in considering the history of administration of exceptions to the well location requirements in a given pool whenever a new application comes along for the sake of, primarily, of consistency of administration. Now, this doesn't mean that the Commission can't look at the particularities of the situation. We certainly think that the Commission should, but also, it is very important for the Commission to determine whether it is following basic standards of fairness, whether the --putting it in other terms, whether the application itself is consistent with basic standards of fairness in view of the method that the pool has been administered in the past.

And particularly in this respect, we call the Commission's attention to the order that was entered in the denovo hearing in the Marathon case, which in many respects is very similar to this case, and we certainly think that it is unfair, just basically unfair of the Applicant in this case to propose a non-standard location without proposing a reduced allowable in view of the action taken by the Commission in concerning the well, and concerning the application of Marathon for an unorthodox well location in Section 30. It is for that reason that we are asking the Commission to take

administrative notice of these previous orders.

MR. KELLAHIN: I am still not exactly sure as to the reason counsel has for asking the Commission to take administrative notice. We referred to the history of the pool, certainly we have no objection to the Commission re-viewing the history of the development of this pool.

If we come down to the specific question of whether the Applicant in this case is fair or unfair in not proposing some curtailed allowable in his application in the case before the Commission today, we submit that in each of the cases and each of the orders that have been entered by the Commission, to which counsel has referred, are based on evidence which was before the Commission, differed in each case with different results in each case, and certainly we submit that we are entitled to the same identical treatment here.

We have submitted our evidence. If the Commission feels the allowable should be curtailed on the basis of the evidence, I am sure it will enter that type of order. We submit on the basis of our evidence, that the allowable should not be curtailed, and for that reason I object to the Commission taking administrative notice of an order which has no bearing, taken completely out of context and without any reference to the testimony on which the order is based.

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MR. NUTTER: Mr. Kellahin, it is going to be my recommendation that the Commission take administrative notice of its previous orders, however, I believe that each of these previous orders, if there is an allowable adjustment in there, was based on the circumstances pertinent to that particular case, and I assure you that any number that happens to be in here, in one of these orders, won't be parited in any order that issues from this hearing because we took administrative notice of that order.

MR. KELLAHIN: On that basis, I withdraw my objection.

MR. MORRIS: I have nothing further, Mr. Examiner, except a short statement.

MR. NUTTER: Go ahead with your statement, Mr. Kellahin can close.

MR. MORRIS: I will be very brief. Actually, I have already made most of my statement in supporting my offer that the Commission take administrative notice of the, of its previous orders.

I would like to call the Commission's attention to Rule 104, which specifically authorizes the Commission to adjust the allowable to be assigned to any well that is granted an exception to the well location requirements of the field rules in order to prevent that well from gaining an

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advantage over other operators in the field, and certainly that is most applicable in this case.

It is Marathon's proposal and I believe that this proposal will be concurred in by other operators in the field that perhaps have made statements by letter or telegram to the Commission. That the Applicant be granted permission to drill his well at the proposed location, but that the allowable to be assigned to the well be restricted to one half of a normal unit allowable, that is, that the acreage factor to be assigned to this well be no more than one hundred and sixty acres.

I think, in view of the exhibit that Marathon has offered here, which is consistent with past interpretations in this field, that a hundred and sixty acres is being most generous to the Applicant in this case. That's all I have.

MR. KELLAHIN: If the Examiner please, I will also try to be as brief as possible. We have offered our evidence showing the entire east half of Section 32 to be productive and this is based upon an interpretation made by a geologist who has made a recent study of the area specifically involved in this application.

Now, in an effort to overcome this testimony, Marathon has offered an exhibit which remains unchanged from

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that offered as their Exhibit Number 6 in Case 2628, and comparable to an exhibit offered by Standard Oil Company, not even concerned with this area, as their Exhibit Number 1 in Case 3420. And yet Marathon's witness admits that they made a drastic change in their interpretation to the north and their own exhibit shows that at the time they farmed that acreage out to Mr. Mayer, they considered it dry and he got a good well. This to me casts considerable doubt upon any interpretation they might make in the south end of the well, they admitting that they have no further or additional information to offer at this time. They were wrong at the north; they could be equally wrong as far as the south end is concerned.

But, then, they have also taken the position that we should be permitted to drill our well at the unorthodox location with a curtailed allowable to the extent of one half, a one hundred and sixty acre allowable.

According to their Exhibit Number 1, any well drilled there would be comparable to Mr. Mayer's well in Section 28. It would be a marginal well, and if they are correct, we wouldn't need any curtailed allowable, it would automatically be curtailed by its own nature.

We submit that our evidence shows the entire east

half of Section 32 is productive of gas from the Atoka-Pennsylvanian Pool, that the Ohio Nix Number 1 Well in Section 29 is draining the northern portion of Section 32, and that the only way Mr. Mayer can protect himself by counter drainage, is by drilling a well at the location, which he proposes.

Thank you.

MR. NUTTER: Are there any other statements to be made? Mr. Hatch?

MR. HATCH: There are some communications in this case. A telegram from Standard Oil Company of Texas, dated 1967, August the 8th. "Standard Oil Company of Texas has learned that Len Mayer will request authority to drill an unorthodox location in the northeast quarter of Section 32, Township 18 South, Range 26 East, Atoka-Pennsylvanian Pool, Eddy County, in Case 3632 on August 9th, 1967.

As an operator in the Atoka-Pennsylvanian Pool, we have no objection to the granting of such a permit, however, we urge that the Commission assign only such acreage to the well as is reasonably proved productive by the operator. Paul Hull, Supervising Proration Engineer."

A telegram from M.W.J. Producing Compay, addressed to the Commission, dated August 8th, 1967. "Re: Case 3632, Mayer unorthodox location Atoka-Penn Pool. M.W.J. Production Company

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is operator of a producing lease in the east half of Section 19, 18, 26, and has no objection to the unorthodox location requested, provided the allowable is appropriately restricted. We do object to three hundred and twenty acres allowable for any location contrary to the established field rules. Request this statement be incorporated into minutes of hearing. Ken Williams, President of M.W.J. Producing Company."

A telegram from Pan American Petroleum Corporation, dated August the 4th, 1967. " Re: Case 3632, Examiner Hearing Docket August 9th, 1967. Application of Len Mayer for an unorthodox gas well location, northeast quarter, Section 32, Township 18 South, Range 26 East, Atoka-Pennsylvanian Pool, Eddy County, New Mexico.

Applicant has advised Pan American he intends to assign the east half of Section 32 as a proration unit for this well. Pan American, under these conditions, strongly protests the granting of the unorthodox location. If Applicant thinks the southeast quarter of the section is productive and therefore qualifies for assignment, he should drill at an orthodox location in the southeast quarter.

If the New Mexico Oil Conservation Commission grants the unorthodox location, the acreage assignable should be restricted to the one hundred-sixty acre quarter section in

which the well is located.

Subsequent to prorating this pool, the New Mexico Oil Conservation Commission has approved two unorthodox locations. In both cases, the New Mexico Oil Conservation Commission also reduced the attributable acreage from below three hundred and twenty acres. D. L. Ray, Pan American Petroleum Corporation."

A letter from Atlantic-Richfield Company, dated August the 3rd, 1967, addressed to the New Mexico Oil Conservation Commission. "Re: Len Mayer's Application for unorthodox location, Case 3632. Gentlemen: Atlantic Richfield Company owns an interest in the Marathon Ralph Nix Number 1 Well located in Unit J. Section 29, Township 18 South, Range 26 East, Eddy County, New Mexico.

The Atoka-Pennsylvanian Pool proration unit for this well offsets Mr. Len Mayer's proposed unorthodox location in the northeast quarter of Section 32, Township 18 South, Range 26 East, Eddy County, New Mexico.

Atlantic-Richfield Company offers no objection to Mr. Mayer's application as advertised. We urge, however, that the proration unit for the proposed well be restricted to the northeast quarter of Section 32. Mr. Mayer feels strongly that a three hundred and twenty acre proration unit,

including the northeast quarter of Section 32, contains productive gas and his application should be denied and he should be required to drill on a standard location. W. P Tomlinson." That's all of the communications

MR. NUTTER: If there is nothing further in Case Number 3632, we will take the case under advisement and recess the hearing until 1:30.

COUNTY OF BERNALILLO)

I, JERR M. POTTS, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission Examiner at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial
seal this 18th day of August, 1967

Court Reporter and Notary #

My Commission Expires:

7-10-70

I do hereby certify that the foregoing is a complete record of the proceedings in the Executive hearing of Case No. 3632 heard by me on Aug 9, 1967.

~~_____~~ Ex-1001
New Mexico Oil Conservation Commission

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