STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
10 November 1982

EXAMINER HEARING

IN THE MATTER OF:

Application of Amoco Production Company for an unorthodox gas well location, Lea County, New Mexico.	CASE 7718

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:
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I N D E X

E X H I B I T S

MR. NUTTER: We'll call next Case Number 7718.

MR. PEARCE: That is on the application of Amoco Production Company for an unorthodox gas well location, Lea County, New Mexico.

MR. MOTE: Mr. Examiner, I'm Clyde Mote, representing Amoco Production Company, in association with Bill Carr and Katherine Krueger.

We'll have one witness, Curtis Conrad.

(Witness sworn.)

MR. MOTE: While the witness is getting his exhibits straightened out, I'd like to make a brief opening statement to acquaint the Examiner with this well. I believe this is not the first time you've heard of this well, Mr. Nutter.

This well was originally proposed, it's the subject of a forced pooling action. This forced pooling action was held in two stages on March 3rd and March 31st of this year in Case Number 7499, at a regular location on the same south half dedication.

If you'll remember, this forced pooling

hearing was protested by Dowell and Belco farmed out to Amoco but -- and did -- but did not actually resist Amoco at that hearing.

As a result of that hearing, Order Number R-7032 was issued by the Division on July 21st of 1982, which contained a split penalty provision of 200 percent in the Devonian and 100 percent in the Pennsylvanian, and this order was unacceptable to Amoco because of the many legal and practical problems encountered and presented by that order.

Since that time negotiations have been ongoing between the parties who own an interest in this area and they have come upon an agreed location, which is 660 feet from the south line and 990 feet from the east line of Section 3. This is an unorthodox location and it was requested to be granted administratively; however, objection was received from BTA, an offset operator, which resulted in this being set for hearing.

MR. NUTTER: Now the original location, Mr. Mote, during the original hearing was 660 from the south line and 1980 from the east, is that correct?

MR. MOTE: Yes, sir.

MR. NUTTER: And at that hearing Dowell thought that the well should be located farther east, so in the process of your continued negotiations with Dowell

on this matter, you've agreed to move the location --

MR. MOTE: Yes, sir.

MR. NUTTER: -- to the present proposed location.

MR. MOTE: As well as change the target from the Devonian to the Morrow.

Both Belco and Dowell have indicated that they'll not agree to an east half location or an orthodox location in the south half, so unless this application is granted as requested, probably another forced pooling hearing will have to be held in order to be able to allow this well to be drilled.

MR. NUTTER: You still have the same proration unit that was proposed at the original hearing, being the south half.

MR. MOTE: Yes, sir.

MR. NUTTER: Okay, please proceed.

CURTIS CONRAD

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

DIRECT EXAMINATION

BY MR. MOTE:

Q. Mr. Conrad, would you please state your name, by whom employed, and in what capacity and location?

A. My name is Curtis Conrad. I am presently employed by Amoco Production Company out of Houston, Texas, as a Petroleum Geologist.

Q. Would you please relate for the Examiner your educational experience?

A. I received my Bachelor's degree in geology in 1979 from Texas A & M University and have subsequently completed all requirements necessary for a Master's degree, also from Texas A & M, to be received this month.

Q. And how long have you been working for Amoco?

A. Approximately fifteen months in the West Texas/Eastern New Mexico Operations Division.

Q. And what's been the subject of your employment?

A. All fifteen months have been working in the Morrow trend in New Mexico.

Q. Are you familiar with the subject of this application?

A. Yes, sir.

Q. Mr. Conrad, are you familiar with the geological exhibits which were prepared and sent with the application for administrative approval in this application -- in

this hearing?

A. Yes.

Q. And did you prepare those exhibits?

A. No.

Q. Have you had a chance to review those exhibits which were filed with the application for administrative approval?

A. Yes, I have.

Q. And after your view did you prepare the written geological statement which was contained in that administrative application?

A. Yes.

Q. Do you agree that these -- those exhibits represent a valid interpretation to be used in attempting to identify drilling prospects?

A. I do.

Q. Have you prepared additional exhibits which provide an illustration of the need for the proposed unorthodox location?

A. I have.

Q. What is the basic difference between the geological interpretations contained with the administrative application as opposed to the exhibits which you will present in this hearing?

A. The exhibits that I'm going to present in this hearing center on discrete intervals located in the Atoka and the Morrow formations, whereas the exhibits originally prepared were looking at gross intervals. I'm looking at discrete intervals.

Q. Now, if you would, tender your first exhibit. I believe this is a map of the area in question, is it not?

A. Yes, sir.

Q. The area on the map shows the location which you -- that has been requested, is that correct?

A. Yes.

Q. Is there anything further with regard to this exhibit you would like to say?

A. No, sir.

Q. All right, go to your Exhibit Number Two. I believe this is a clean sand Isolith of the Middle Morrow. Exactly what do --.

A. They need to look at the first exhibit, Exhibit Two. You're looking at Exhibit Three. Excuse me, it's underneath -- I saw, it's underneath the -- right there it is.

MR. NUTTER: What we've got identified as Exhibit Two states that it's Antelope Ridge Area Producing Interval.

A. May I --

MR. MOTE: That will be fine, we'll just go ahead and use them that way.

MR. NUTTER: Okay, do you want to talk about Exhibit Three or Exhibit Two, then?

A. That is Exhibit Three. You can just change the exhibit and that will be correct.

MR. PEARCE: For your information, I'll change the exhibit number --

MR. MOTE: Fine, all right, Exhibit Number Three.

Exhibit Two was a clean sand Isolith of the Middle Morrow.

MR. NUTTER: Okay.

MR. MOTE: If that's what we want as Exhibit Number Two. We must have --

MR. NUTTER: Well, the clean lime-stone Isolith of the Atoka Bell Lake Lime.

MR. MOTE: Will be Exhibit Number Three.

MR. NUTTER: Will be Exhibit Three, all right. And the clean sand is Exhibit Number Two.

MR. MOTE: Yes, sir.

Q. Explain exactly what a clean sand Isolith is,

if you would.

A. In this exhibit I'd like to first say that clean sand in this area, as has been designated in our mapped area, is that sand which is less than 50 API gravity units on the gamma ray.

Now a sand Isolith is mapping a discrete interval in a formation and in this case I'm mapping the Middle Morrow sand shown in yellow.

Q. Is this the main pay that you'll be looking for in the Morrow?

A. Yes, it is.

Q. You've got a type log on here. What do you mean by a type log?

A. This log was chosen by myself to represent -- to be the most accurate representation of the two producing horizons that I'm interested in and it best shows the development of the sand that I'm also interested in.

Q. Did you look at several logs in the area to determine that this is a typical log?

A. Yes, sir, I've looked at all logs available in four fields, that being the Grama Ridge Field, Antelope Ridge Field, Bell Lake Field, and the South Bell Lake Field.

Q. And you feel from looking at all those logs that is typical of throughout those four fields, is that cor-

rect, this particular interval?

A. I think it is, yes, sir.

Q. All right. Did you find correlative discrete interval in all the well logs shown on this exhibit?

A. Yes, I did.

Q. How many feet of clean sand do you expect to encounter by the proposed location?

A. If you focus your attention to the blue arrow, our proposed location, I would expect to encounter between 60 and 80 feet of clean sand.

Q. I believe you've got three different dots shown on your contour map over to the left, if you would, by using your legend, explain what those different dots mean and the legend and the map itself?

A. All right. The brown dots are representing wells that have penetrated the Strawn and are producing from the Strawn.

The green dots represent wells which are producing from the Atoka, and the red dots represent wells which are producing from the Morrow.

Q. Did you use all of the wells that are shown on this exhibit for control in preparing this Isolith?

A. Yes, I did.

Q. Is there anything further you'd like to say

in connection with this exhibit?

A. No, sir.

Q. The proposed well location is shown by the blue arrow, is it not?

A. Yes, it is.

Q. All right, go to your Exhibit Number Three.

MR. NUTTER: Now, just before he leaves this, this clean sand typical well here is not on this map, is it?

A. No, sir, it is not.

MR. NUTTER: As a matter of fact, it's in the next township to the south.

A. Right. It's located about five miles to the southwest.

MR. NUTTER: Okay, fine.

Q. Your Exhibit Number Three is a clean limestone Isolith of the Atoka Bell lime -- Bell Lake lime, is it not?

A. It is.

Q. And did you use the same type log for your consideration of this exhibit as well as the other one?

A. Yes, I did.

Q. Did you also find a correlative discrete interval in all the well logs reviewed as shown on this exhibit?

A. Yes.

Q. And what interval is it you portray on this exhibit?

A. I have focused my attention on the Bell Lake lime, which is showed in -- colored in blue.

Q. And is this the main pay in which you'll be looking for in the proposed well?

A. Yes.

Q. Are the same wells shown on your contour map over to the left side of this exhibit that were shown on the previous, on Exhibit Number Two?

A. Yes, they are the same.

Q. How much feet of clean sand would you expect to encounter in this interval?

A. Again our proposed location is shown by the blue dot. I would expect to encounter approximately 70 feet of clean Bell Lake lime.

Q. Mr. Conrad, why are you asking for a 990 from the east line location of the proposed unorthodox location?

A. There are several reasons why we are asking for an unorthodox location, the first reason being that if you look at both exhibits you'll find that the western limits of both the Middle Morrow Sand and the Bell Lake lime are very ill defined. You'll also notice that we would like to encounter

the maximum thickness of both producing horizons and our proposed location would give us that; and thirdly, due to the high costs of drilling a dual completion in this area, the further west that we move, the greater the risk that we have of encountering a noncommercial well.

Q. Is this well considered a high, high cost well to drill?

A. It is.

Q. Approximately how much would it cost to drill and complete this as a dry hole and as a producer?

A. Our producer costs are approximately $3.3 million. Our dry hole costs are approximately $2.7.

Q. And your testimony is from a geological standpoint you feel like from these two discrete sands which you have portrayed that it would be advantageous to go as far east as possible in order to attempt to make a well at this location, is that correct?

A. Yes, I do.

MR. MOTE: Mr. Examiner, that concludes our testimony in this case. We offer Exhibits One through Three into evidence and submit the witness for examination.

MR. NUTTER: Exhibits One through Three will be admitted in evidence.

CROSS EXAMINATION

BY MR. NUTTER:

Q. Mr. Conrad, again, the type well for the clean Atoka lime is not shown on the map on the left side of the Exhibit Number Three, is that correct?

A. That's correct.

Q. Is this the same well that we'd looked at before?

A. Yes.

Q. So it's five miles south.

A. Southwest, yes, sir.

Q. Okay. And actually, the pay that we see on your two Isoliths, being the Atoka and the Morrow, is a better pay at the proposed location than it would have been at the original location, is that correct?

A. That is correct. We would encounter a greater thickness.

Q. Greater thickness.

A. I cannot say whether it would be a better pay. That would depend on the porosities and permeabilities and I cannot predict that.

Q. Now how much Atoka pay is depicted up here in blue on this Continental No. 14?

A. You see approximately 60 to 65 feet there.

Q. And that's about what you get in this well and maybe you have 70.

A. Approximately, yes, sir.

Q. And on the Morrow that we were looking at awhile ago the thickness was about the same as what you --

A. Approximately, yes, sir.

Q. Okay.

MR. NUTTER: Are there any further questions of Mr. Conrad? He may be excused.

Do you have anything further, Mr. Mote?

MR. MOTE: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case Number 7718?

We'll take the case 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 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. 7718 heard by me on 11/10 19 82.

_____, Examiner
Oil Conservation Division