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

18 November 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of BTA Oil Producers for an unorthodox gas well location, Lea County, New Mexico. CASE 9258

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Jeff Taylor
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: W. Thomas Kellahin
Attorney at Law
KELLAHIN, KELLAHIN & AUBREY
P. O. Box 2265
Santa Fe, New Mexico 87504

I N D E X

MARVIN L. ZOLLER

E X H I B I T S

MR. CATANACH: Call next Case Number 9258.

MR. TAYLOR: The application of BTA Oil Producers for an unorthodox gas well location, Lea County, New Mexico.

MR. CATANACH: Are there appearances in this case?

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin, and Aubrey, appearing on behalf of the applicant, and I have one witness to be sworn.

MR. CATANACH: Are there any other appearances in this case?

Will the witness please stand and be sworn?

(Witness sworn.)

MARVIN L. ZOLLER,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Zoller, for the record would you please state your name?

A Marvin Zoller.

Q Mr. Zoller, by whom are you employed and in what capacity?

A I'm representing BTA Oil Producers in a consulting capacity.

Q Have you previously testified before the Oil Conservation Division of New Mexico as a petroleum geologist?

A Yes, I'm sure I have.

Q And have you prepared certain geologic exhibits, evaluations, and have you reached certain geologic opinions with regards to this application?

A Yes, sir, I have.

MR. KELLAHIN: Mr. Examiner, we tender Mr. Zoller as an expert petroleum geologist.

MR. CATANACH: He is so qualified.

Q Mr. Zoller, let me refer you to both Exhibit Number One, which is your Antelope Ridge Atoka structure map; Exhibit Number Two is your structural cross sec

tion map; were both these exhibits prepared by you?

A Yes, sir.

Q Let me turn first to Exhibit Number Two, if you will, and let's start with the cross section. There is a location plat on the righthand side of the cross section. Would you take a moment and give the Examiner some of the background with regards to the proposed well? For example, what is the acreage dedication for the well?

A It would be the north half of Section 35, 22 South, 34 East.

Q And approximately where is this? We are in what field?

A Lea -- Lea County. It's the Antelope Ridge Field, Antelope Ridge Atoka Field.

Q The proposed well location is for the 2-B Well in the red circle?

A Yes, sir.

Q And that footage location is 660 from the west boundary of the section and 1980 from the north boundary?

A Yes, sir.

Q What is identified as the gas well 1-B on that same north half spacing unit? What is that?

A That is a Morrow producer.

Q The proposed formation that you will test

is the Atoka formation?

A Yes, sir.

Q Would you take a moment and identify on this exhibit using this plat, the other wells that you've used for geologic control?

A Well, the northeasternmost well is a Phillips Petroleum Company dry hole. I think it would be beneficial just to glance across the exhibit for a moment and see, I have colored blue the Atoka limestone and you will see that the Phillips Petroleum Company well had virtually no Atoka limestone.

As you move southwest to the next well, which I identified as a Morrow producer, you can see on the left side that it had sufficient Atoka limestone but on the righthand side of the log you see that it had virtually no porosity.

As you move on southwest, I projected in our No. 1 Maddox Federal, which is a very good Atoka producer, and again on the righthand side you will see colored in red is the gas effect on the neutron curve and the purple is the remainder of the porosity.

I will skip the next well and go to the well on the left end of the cross section.

You'll see that it is also an Atoka producer but it produces from an upper limestone bank, has vir-

tually no porosity in the lower limestone bank.

Now, moving back to the log that we skipped, you see it has a great amount of limestone. It mainly produces from the lower member; however, it seems to have some perforations in the upper member.

What we're going to see as we move on to the next exhibit is that these two limestone banks are very distinct and separate things and we are trying to see if we can develop the lower limestone bank, which is represented by the well in the middle of the cross section.

Q While we have the display, Exhibit Number Two before us, can you identify for us the ownership of the various offsetting spacing units, starting first with the south half of Section 35?

A The south half of Section 35 is owned and operated by BTA Oil Producers.

Q If we go to the east half of 34, who's the operator --

A That is --

Q -- of that property?

A That is Maxus, formerly Diamond Shamrock.

Q And as we go into Section 27 and Section 26, who's the ownership there?

A That is now Apache. It recently has been, oh, MGF, I believe.

Q Okay, and who are the other operators?

A Well, northeast in the southwest quarter of Section 25 is a lease owned by Amerada Hess and in Section 36, since I prepared these exhibits, Maxus has also announced a location for that section, so they own that now.

Q All right, let's turn to Exhibit Number One now and look at the structural map that you have prepared.

Would you identify and describe that Exhibit Number One for us?

A Yes. This is a structure map made on the base of this Atoka limestone that I -- you saw on Exhibit Number Two. You can see by the build-up in the different wells that a map contoured on the top of the limestone would be a very false map. So the base is a relatively good structure point.

In Section 3 you will notice two wells that are circles in red. Those two wells produce only from the upper limestone bank.

Moving over to the east in Section 35 and Section 2 there are three wells colored solid red. Those three wells produce only from the lower limestone bank.

Now, there are six or seven other wells that you will see that are half colored and half circled. Those wells produce from both limestone banks.

I think what the exhibit tends to show is that the upper limestone bank runs almost right down the crest of the structure, whereas the lower limestone bank seems to mainly form on the east flank of the structure.

What the cross section would tend to represent to us is that the BTA No. 1-B Maddox Federal had very little porosity in the limestone bank.

Going southwest to the Maxus No. 2 Federal, that is a recent well. It has just been completed for about a million and a half a day. It had to be acidized twice and fraced once in order to make the million and a half a day; whereas, the BTA No. 1 Maddox Federal flowed over 7-million cubic feet of gas per day on completion and has already made about 3-1/2 billion cubic feet of gas.

The indication from the exhibits is that the better part of the porosity runs west of the BTA 1-B and east of the Maddox No. 2 Federal.

Q Within that area how did you determine what in your opinion was the optimum location for which to test for Atoka production?

A Well, all you can do with this thing, I've tried to Ispach it and you can't make any sense out of it, what is says to me is this Atoka trend starts about a mile south of this mapped area but for five miles the Atoka production in the lower zone seems to have pretty well have

stayed on the flank, east flank, of this structure, and we're trying to see if we can push it one more location north.

Up at the north end of the map you'll see four wells, two dry holes, two former producers, and none of those have any limestone build-up in them. They look very much like the Phillips well on the northeast end of the cross section.

Q The Well 1-B, that's the Morrow well, that's at a standard location 1980 from the west line and 660 from the south line of that spacing unit?

A Yes, sir.

Q In your opinion, then, you need to have a location that's closer to the west boundary, still staying to the south side of that proration unit, in order to have the optimum location from which to test for Atoka production in the spacing unit.

A That's the way I feel about it.

Q In your opinion is the closest standard locations for wells in this spacing unit represent an unreasonable risk to the operator?

A No, I don't think so. The standard has been broken on a number of occasions. In fact, I believe we have two of them just west of us that are not drilled on standard.

Q Which ones are not on standard locations?

A The Maxus No. 2, which has just been completed, and west of there, the Maxus No. 3, which is probably about to the pay zone today.

Q Okay. So this is a --

A Now, as I see it, the Maxus No. 3, if my geology has got any value at all, is trying to develop the upper limestone bank, not the lower.

Q Okay. When looking at the Upper Atoka limsetone bank, then, within the north half of 35, in your opinion there is not an acceptable standard location within that spacing unit that represents a reasonable risk to the operator.

A I don't think there will be any upper limestone bank in the north half of 35 and I think that is the only location that you could possibly drill for the lower limestone.

MR. KELLAHIN: Mr. Examiner, Exhibits Three, Four, and Five represent executed waivers by the various offset operators.

Exhibit Three is a waiver from Amerada Hess. Exhibit Four is a waiver from Maxus Exploration Company. Exhibit Five is a waiver from Apache Corporation.

At this time we would move the

introduction of Exhibits One through Five and that concludes my direct examination of Mr. Zoller.

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

CROSS EXAMINATION

BY MR. CATANACH:

Q Mr. Zoller, have the wells in Section 3 been tested in the upper -- upper limestone bank or is it present?

A In wells -- in wells in Section 3?

Q In Section 3?

A They produce from the upper limestone bank.

I have copies of the logs colored up just like these on the cross section on every well on this map if there's anything important.

Q The wells in Section 2, have those -- do you know anything about those?

A The wells in Section 2 both produced only from the lower limestone bank.

MR. KELLAHIN: There's a color coded legend at the very bottom of the display that identifies the wells.

A The BTA No. 1 Antelope in the north half

of Section 2 has no limestone in the Upper Atoka.

The BTA No. 1 State in the south half of Section 2 has no limestone available in the upper part of the Atoka. Only the lower member exists.

Q Was the Well No. 1-B in Section 35, was that tested in the lower part or was that just --

A No, sir, it was not, but, as you know, drill stem tests are not too often performed, particularly in the Atoka.

The only drill stem test, you'll notice the Phillips well on the cross section ran two drill stem tests and there's not another drill stem test on any of the wells on the cross section.

Q But according to the log information from the 1-B, that zone wouldn't be worth testing?

A Oh, I think you might make a well out of it but I don't think you'd make any money on it.

As you can see on the righthand side of the log, oh, three or four little zones of 3 to 5 feet, maybe, and the south offset has 50 feet of porosity.

MR. CATANACH: I think that's all I have of the witness. He may be excused.

Is there anything further in this case?

MR. KELLAHIN: No, sir.

MR. CATANACH: 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 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. 9258, heard by me on November 18 1987.

David R. Catanach, Examiner
Oil Conservation Division