NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10426

IN THE MATTER OF:

The Application of BTA Oil Producers for simultaneous dedication and to amend Division Order No. R-9009, Lea County, New Mexico.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

December 19, 1991

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

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FOR THE APPLICANT:

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BY: WILLIAM F. CARR, ESQ.

I N D E X

E X H I B I T S

EXAMINER STOGNER: Call the next case, No. 10426, at the bottom of page 1.

MR. STOVALL: Application of BTA Oil Producers for simultaneous dedication and to amend Division Order No. -- I think that's R-9009, Lea County, New Mexico.

EXAMINER STOGNER: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the law firm of Campbell, Carr, Berge & Sheridan, P.A., of Santa Fe. We represent BTA Oil Producers, and I have one witness.

EXAMINER STOGNER: Are there any other appearances in this matter?

Will the witness, please, stand and be sworn.

KEITH LOGAN

Having been duly sworn upon his oath, was examined and testified as follows:

EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record, please.

A. Keith Logan.

Q. Where do you reside?
A. Midland, Texas.
Q. By whom are you employed and in what capacity?
A. BTA Oil Producers as a reservoir engineer.
Q. Mr. Logan, have you previously testified before this Division and had your credentials as a reservoir engineer accepted and made a matter of record?
A. Yes, I have.
Q. Are you familiar with the application filed in this case on behalf of BTA Oil Producers?
A. Yes, I am.
Q. Are you familiar with the wells that are involved in this case and the subject area?
A. Yes, I am.
MR. CARR: Are the witness' qualifications acceptable?
EXAMINER STOGNER: They are.
Q. (BY MR. CARR) Mr. Logan, would you briefly state what BTA Oil Producers seeks with this application.
A. We are seeking amendment to Division

Order R-9009, which would allow simultaneous dedication to two wells in the south half of Section 34 of 22 South, 34 East, Lea County, New Mexico.

Q. What pool will these wells be completed?

A. Antelope Ridge-Atoka.

Q. What spacing is currently in effect for that pool?

A. 320-acre spacing.

Q. So you're proposing to simultaneously dedicate a standard unit?

A. Correct.

Q. This spacing unit and section has been the part of previous Oil Conservation Division hearings, has it not?

A. Yes, it has.

Q. Could you briefly review for Mr. Stogner the background or the recent history of the efforts to develop Section 34.

A. Well, we had a hearing to drill the Maxus "B" No. 3 well, which is in the northeast quarter of Section 34. Originally all that were producing was the Maxus "B" No. 1, the Maxus "B" No. 2 well on the south half of Section 34.

At that time the proration units were running, being the east half dedicated to the No. 1 well and the west half dedicated to the No. 2 well.

We asked for re-orientation of the proration units where it would be the north half dedicated to the No. 3 well and the south half dedicated to the No. 2 well. And that was approved, but we did abandon the No. 2 well. So there would only be two wells producing within that section.

Q. That case was heard in September of 89, was it not?

A. Correct.

Q. It was presented to Mr. Stogner?

A. That is correct.

Q. The order that resulted from that case required that when the No. 3 well in the northeast quarter was completed that the No. 2 well be plugged and abandoned; is that right?

A. That is correct.

Q. Has the No. 2 well been plugged and abandoned?

A. It has been temporarily abandoned.

Q. Could you explain to Mr. Stogner how it

is that the well is not plugged and abandoned but just temporarily abandoned?

A. Well, at the time we were looking at possible recompletions, and people from our production department discussed it with Jerry Sexton out of the Hobbs' office asking if a temporary abandonment would be acceptable.

He discussed that with Santa Fe, and he called us back and said that would be all right at this time as long as we did not produce the Atoka or the Morrow formation.

Q. Since that time has either the Atoka or the Morrow formation been produced at any time?

A. No.

Q. Has the well been produced at all?

A. No.

Q. Let's go to what has been marked as Exhibit No. 1, which is a plat dated 12/9/91, and I would ask you to identify that and review it for the Examiner.

A. This is a production map showing Atoka and Morrow production in the area of the subject acreage. And what it's showing is, of course, A being the total depth; B being the completion date; you've got C that is the perforated

interval, either in the Atoka or in the Morrow; D, current rate; and E being cumulative production.

Q. This is basically the map that was presented in the last hearing concerning this section, is it not?

A. Right. It's just been updated for new wells drilled in the area.

Q. The yellow acreage on Section 34 is the acreage currently dedicated to the No. 1 well?

A. That is correct.

Q. And that well is at an unorthodox location?

A. The No. 1 well?

Q. Yes.

A. Yes, it is.

Q. That was previously approved by the Division?

A. Correct.

Q. If we look at the No. 1 well, how does it compare in terms of its producing capabilities with wells that are located to the south and the east of it?

A. Okay. The No. 1 well is really -- it's not a great producer compared to what we're

seeing in the area. If you look to the south, the Maxus "A" No. 1, which is in the north half of Section 3, it has already made 4 Bcf of gas, but it's currently producing 1.2 million a day as compared to the 766 Mcf per day from the Maxus "B" No. 1 in the southeast quarter of 34.

Q. If we go to the east in Section 35, how are those wells in comparison to the No. 1?

A. Okay. The Maddox Federal No. 1 in the south half of 35, its current rate is only about 500 Mcf per day, but it has made 5 Bcf.

The best well out here from a current rate standpoint is the "B" No. 2 in the north, northwest quarter -- well, the southwest quarter of the northwest quarter of Section 35. It's currently making two-and-a-half million a day.

Q. Let's move to Exhibit No. 2, your structure map, and I would ask you to review that for Mr. Stogner.

A. This is, again, very similar to what was presented in the previous hearing, just taking into account new wells in the area.

And as I stated before, what we have seen in here, this being a map on the base of the Atoka limestone, is really that the better

producers tend to be along the flanks, because the Maxus "B" No. 2 in the southwest quarter of Section 34 is one of the higher wells out there and has been a poor producer when it did produce. But, again, it's been shut in for well over two years.

Q. Does structure play a major role in making a successful well in this area?

A. No, it does not.

Q. Let's go to Exhibit No. 3. Identify that and review it for the Examiner.

A. This is a cross-section. Again, all I've done is added new wells in the area.

A. Really what I'm trying to show here is you've got the well on the left side of the cross-section, which is the one we are proposing to put back on production.

Pay quality, if you look at the perforated interval, porosity was not that great. We think at best it's going to be a marginal well overall.

If you continue to the east, you have better pay quality developed in the Oryx Fed. Com. well, which is in the south half of Section 27. That well came on pretty strong, but we

believe it had one stringer which produced and has not been a very good producer.

If you continue to the east to the Maxus "B" No. 3, which was the subject of the last hearing, we had a little bit of porosity developed towards the base of that zone. And, again, it's been a marginal well at best.

EXAMINER STOGNER: I'm sorry. Which is the Maxus "B" No. 3.

THE WITNESS: 3 is in the north half. It's going to be the third well on the cross-section.

EXAMINER STOGNER: No. 3, okay.

THE WITNESS: But, see, it just developed in the base and really at this point has been a fairly marginal well.

The next well, being the Maxus "B" 1, in the southeast quarter of Section 34 which is currently making 760 Mcf per day, had more porosity developed. It will be, by far, of the three the best well in that section, but it is -- it's not a great producer or has not been.

Continuing east, the best well we're seeing from a current-rate standpoint is the Maddox Federal "B" No. 2. That's the one in the

north half of Section 35. And it is currently making two-and-a-half million a day and has already made 4 Bcf.

Then the Maddox Federal No. 1 in the south half of 35, it has been a good Atoka producer, but its rate has dropped off quite a bit but has already made 5 Bcf of gas. As you can see, where the perforated interval is, the porosity was very well developed there.

The Maddox Federal "B" No. 1 was never produced out of the Atoka formation. We've already got the Maddox "B" 2 in that north half of 35. It is the Atoka producer in the Maddox "B" 1. It really did not have any porosity developed.

Okay. A new well that's been drilled since that last hearing has been the Ojo Chiso No. 2, which is in the south half of Section 26, and it did have some porosity developed. It's going to make -- I haven't made an estimate yet, but it's making 1.2 million a day and had a fairly thick Atoka limestone developed.

And what we're seeing, as you continue east to the Phillips Merchant well, again in the south half of Section 26, really had very little

limestone developed. It appeared to have more shale than anything in the correlative interval and just was not -- it was a dry hole.

Q. (BY MR. CARR) Mr. Logan, what does this cross-section tell you about the producing strings across this portion of the reservoir?

A. Well, they can vary dramatically. But what I'm seeing is when you get on the western side of this and high, they are not -- they don't develop the porosity. That's why I feel like the Maxus "B" 2 at best will be a marginal producer.

Q. Why are you now coming to the Oil Commission and requesting authority to come back and put the No. 2 well back on production?

A. Well, because what I'm seeing in the area, for example, in the Maxus "B" No. 1 has a shut-in tubing pressure in the neighborhood of 1400 pounds. And what we've seen, the Maxus "B" 2, when we shut it in upon completion of the B No. 3, after eight days of shut-in, it had 2900 pounds. And in October we got some more information on that, and it had built up to 40-, almost 4900 pounds.

Q. What does this pressure tell you about the No. 2 well?

A. Well, it makes me think there's a good possibility there are additional reserves that will not be recovered unless we're allowed to produce the Maxus "B" No. 2.

Q. In your opinion will being able to return this well to production therefore prevent waste of hydrocarbons?

A. Yes.

Q. Do you believe it will impair the correlative rights of any interest owner in the area?

A. No.

Q. Have you approached the individual interest owners that offset you concerning this proposal?

A. Yes.

Q. Could you identify what has been marked as BTA Exhibit No. 4?

A. Exhibit No. 4 is the application and waiver form sent to the offset operators.

Q. And you've got how many of them, four of them?

A. Four of them.

Q. Do you have a copy of each of the letters there?

A. Yes, I do.

Q. Have all of the operators that offset this spacing unit waived objection to this proposal?

A. Yes, they have.

Q. There is one condition on one by Pacific Enterprises, is there not?

A. Pacific Enterprises has stipulated approval if we do not produce more than 500 Mcf per day in any one month.

Q. Now, where is Pacific Enterprises' acreage located in regard to your wells?

A. They've got acreage in Section 4.

Q. And is it agreeable to BTA to impose that sort of production limit on the No. 2 well if it is returned to production?

A. Yes, it is.

Q. And you're recommending that?

A. Yes, I am.

Q. And this field is not a prorated field, is it?

A. No, it is not.

Q. Is Exhibit No. 5 a copy of an affidavit with attached notice letters and return receipts confirming that notice of today's hearing has

been given to all offsetting operators?

A. Yes, it is.

Q. In your opinion will approval of this application result in recovery of hydrocarbons that otherwise may not be recovered?

A. Yes, it will.

Q. Will it otherwise be in the best interest of conservation and the protection of correlative rights?

A. Yes.

Q. Were Exhibits 1 through 5 either prepared by you or have you reviewed them and can you testify as to their accuracy?

A. Yes, I can.

MR. CARR: At this time, Mr. Stogner, we would move the admission of BTA Exhibits 1 through 5.

EXAMINER STOGNER: Exhibits 1 through 5 will be admitted into evidence at this time.

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

EXAMINATION

BY EXAMINER STOGNER:

Q. What kind of stimulation work was done on both these wells in the south half of this

section?

A. They have all had approximately 5,000 gallons of acid.

Q. Is that the normal stimulation procedure out there in this Atoka area?

A. That's typically what we've done. And we, of course, have operated a lot of wells in this field, in the Atoka and also in the Morrow.

Q. Forgive me on my history here. The first well in Section 34 was the No. 2 well?

A. No. The No. 1 well.

Q. The No. 1 well?

A. Southeast quarter.

Q. That was drilled in 1987?

A. Right.

Q. And then the No. 2 was the second one; right?

A. Right. Originally the proration units were the south half and the north half. And Diamond Shamrock or Maxus drilled the No. 1 well, and then -- it being an unorthodox location. And then they asked that the proration units be run north, the east half and the west half, so that would allow them to drill the No. 2 well.

And then before we drilled the No. 3

well, we asked that the proration units be the north half and the south half.

Q. During the short time in which the No. 1 and No. 2 well produced at the same time, was there any indication as far as production history that there was communications between the two wells?

A. I have not seen any.

Q. Okay. Now, you mentioned some pressure, initial pressures earlier, and I'm sorry, I wasn't following through on that.

A. Well, I mentioned some current pressures. What we're seeing in the "B" No. 1 in the southeast of 34, this year the pressure we got was approximately 1400 pounds shut-in tubing pressure.

And when the "B 2" was shut-in, I don't know the approximate date of that, but it would have been the same time that the No. 3 was completed, so early 1990. After eight days of shut-in, it had built up to 2900 pounds. And later this year we've seen the pressure of almost 4900 pounds.

Q. What was the virgin reservoir pressure out here; do you know?

A. The virgin reservoir pressure was in the neighborhood of 7,000 pounds. It was well over-pressured out here.

Q. What would the effect be out there in this well or in the south half of this section if both wells were produced but not simultaneously, maybe one producing one month and the next producing the next month? Would that be economically feasible, which is allowed at this point?

And I refer to -- I forgot the memorandum number, Mr. Carr, but you're familiar with the one I'm thinking about.

MR. CARR: Yes.

THE WITNESS: I guess that would be a consideration at this point.

Q. (BY EXAMINER STOGNER) This is the first application since that memorandum has come out back in 1989?

A. Yes, sir.

Q. And, I'm sorry, I don't have the memorandum number. That essentially said only one well in a nonstandard -- I'm sorry, in a non-prorated proration unit.

Do you know if there's any other

proration units within this pool that has had -- that has had or has two wells producing from it grandfathered in before that memorandum came out?

A. I don't know of any, and I've looked at this area for quite some time.

MR. STOVALL: I'll go get that memo and incorporate it into the record.

MR. CARR: We may have a copy of that memo here in the file somewhere.

EXAMINER STOGNER: Does Citation propose any perforations or any additional stimulation for either of these wells?

MR. STOVALL: BTA you mean?

EXAMINER STOGNER: What did I say?

MR. STOVALL: Citation.

EXAMINER STOGNER: Oh, that was the last case.

MR. STOVALL: Here's the memo to which you have referred, dated August 3, 1990, I believe, Mr. Examiner.

Q. (BY EXAMINER STOGNER) Am I to understand that the perforated intervals between the No. 1 and the No. 2 are slightly different, or are we talking about lenses out here that are noncontiguous, or what's the profile?

A. Well, you do see definitely different porosity zones developed. It just happens the No. 2 well had that very clean limestone developed, but it had very little porosity. And in the "B" 1, you really had more porosity developed.

It's, I'd say, roughly the same interval but within this field you do see different porosity zones developed that are not in communication.

Q. Give me a geological profile of what causes that. I'm just not grasping it here today.

MR. STOVALL: Spent too long in Florida, Mr. Stogner.

THE WITNESS: Well, I think it really depends on how much limestone is developed. If you go from the "B" No. 1 and you go to the Sun Fed. Com., you see that the overall interval of limestone has thickened. And in that you do have porosity developed within different stringers of that limestone.

Now, you do have the interval on the "B" 1 at 12 -- well, 12-120 that's very clean and that looks correlative to what was perforated

in the Sun Fed. Com. that's going from No. 1 to No. 2.

But then as you see, you had other limestone intervals developed that were not developed at all in the "B" 1, I mean had no porosity whatsoever, and really looked slightly dirty in places.

MR. STOVALL: Mr. Stogner, do you mind if I ask Mr. Logan a question?

EXAMINER STOGNER: Please.

EXAMINATION

BY MR. STOVALL:

Q. To get real direct, the focus of the memo, there's provision in the memo in which we've referred to and taken notice of that provides in these unprorated gas pools if there are two wells, they'll be produced in alternate months; that two wells won't produce at the same time.

And then it has a provision which says that after notice and hearing, which of course we've satisfied, they can be produced simultaneously and continuously with a showing that correlative rights would be impaired if they are not allowed to do so.

Do you feel that BTA's correlative rights, that is the right to produce the gas underlying your tract, may somehow be impaired if you're not allowed to continuously and simultaneously produce both wells in this proration unit?

A. No, I really don't.

Q. In other words, you could produce them alternately and still get all the gas under the unit; is that what you're saying? I mean is that your opinion, that you could?

A. I believe we probably could.

Q. Okay.

A. The point I was wanting to make was with the limitation on production of 500 Mcf per day, I don't see us producing more than 1.3 million a day out of that unit. And I see wells on 320-acre spacing making more than that offsetting it. That was really the point I was trying to make with the production limitation.

Q. I'm not challenging you. What you're saying is you don't want to impair anybody else's correlative rights by producing both wells; right? That's more the thrust of that particular analysis?

A. Right.

Q. And I guess I'm asking you the other side. Is it necessary -- and I think you've answered it -- to produce them both to protect your own? What about economically, what about the cost of operation? What would the effect be on operational cost to produce them alternately, in alternate months?

A. Well, what we've seen in the area, and in fact I would make a point of the well in the south half of 35, the Maddox Federal No. 1, in 1987 we got approval to exempt that from reporting shut-in pressures because the recovery to put the well back on line in its stage of depletion was difficult. And it took, you know, well over a week or two to even get it back to where it was before, you know, after you shut it in.

Q. Have you had the opportunity to test or experience similar problems in the two wells involved here, the 1 and the 2?

A. Well, we have not done any -- we are not testing the No. 2 well.

Q. I mean, you've had it shut in for a long time.

A. Correct. We don't know what it will do.

Q. Have you shut in the No. 1 at any time and had any problem getting it back on?

A. Not that I'm aware of.

Q. You're saying that by comparison or analysis it could exist because it has happened in other wells in the field nearby?

A. Correct. I mean the due east offset of the "B" 1 in the southeast of 34.

Q. What are the pressures in that well; do you know? Are they in the similar range?

A. They are in the similar range as the "B" 1.

Q. So conceivably there could be a problem in recovering your reserves if you have to alternately shut these wells on and off?

A. Correct.

Q. I take it from what you're saying, there's not a real water problem?

A. It's not a water problem, no. It's just the stage of depletion that we're seeing, just taking time to recover back to where you were before you shut it in.

Q. At the risk of getting into engineering

that's way beyond my -- and I've been known to do that before -- would it be true that it would, in effect, if you produced one well more than the other, that what you're asking that gas to do is go back and forth like this, if there's any communication?

A. If there is any communication, yes, or direct communication.

Q. And you say you don't know whether there's any?

A. No, I don't. I'm just going by the information I have, and it tells me there's a good chance that there are reserves from the "B" 2 that will not be recovered from the "B" No. 1.

Q. So if I -- again, please tell me if I'm making some incorrect assumptions based upon what you're saying -- but one of two things could be occuring. They could be producing from different porosity zones, in which case there wouldn't be the communication, but neither well would recover all the gas. Or if they're producing from the same porosity zone which is connected geologically, they could act against each other if they had to go on and off alternately?

A. Correct.

MR. STOVALL: Okay. I think I'm in deep enough. I'll quit now while I'm ahead.

FURTHER EXAMINATION

BY EXAMINER STOGNER:

Q. You said the No. 1 well on the south half of 35, you had permission to waive the pressure test?

A. Yes.

Q. How long has that been in effect?

A. It was 1987 that it was approved.

Q. So 1987 was the last time the well has been shut in for any kind of test or production?

A. Well, if it was shut in, it was due to a pipeline or compressor problem, but I don't have that data with me. I'm not sure when it has been shut in since that time. But I was unable to get any additional information pressure-wise on that well.

Q. Do you have any waivers on any of the other wells for this pressure testing?

A. No. That is the only one out of the Atoka anyway, and that's what we're addressing here, of course.

Q. Do you have any specifics as far as the Atoka because you mentioned your slow recovery

rate. Any other specific examples in the offsetting wells of the Atoka?

A. Not that I know of.

MR. STOVALL: In other words, the other Atoka wells you've been able to shut them in and take the pressure tests and put them back on production.

THE WITNESS: Right.

Q. (BY EXAMINER STOGNER) On the No. 2 well what was the last production rates before that was shut in?

A. It was 325 Mcf per day.

Q. Do you remember what the initial rate was?

A. No, I really don't. Of course, we didn't operate that well at the time.

Q. Have you had any interruption in the No. 1 well since it's been producing or know of any or have any records?

A. I know it's had a shut-in tubing pressure every year as required by the Commission. And the last one I saw was about 1600 pounds.

Q. But the production rate came back on-line --

A. Yes, it did.

Q. -- without any interruption?

Is there any condensate production from either of these wells or history of it?

A. A lot of those wells out there started out with a fairly high condensate-to-gas ratio, but as time went on, of course, it has dropped. Condensate is not -- as you see the current rate on "B" No. 1 is 766 Mcf a day and 5 barrels of oil.

Q. And you haven't seen any instances of watering out in this gas pool?

A. No, I have not, not until you get far east here and you're really down-structure, and then you can have water problems. But I don't see that being a problem in here.

Q. Has there been any dry Atoka wells or holes to the west? I see this as probably the furthest west producing well in this pool or --

A. As far as Atoka goes, really going west, you don't have any Atoka production in this area. You have to go southwest if you're to find any Atoka production, and there's very little. I mean that -- I don't know if this map would --

Q. I guess, what's the furthest west

extension of this reservoir?

A. It would have to be quite a bit south of here to have anything to the west. I think there's a well down in Section 28 that produced from the Atoka.

If you go due south, you have wells in Section 10 that produced, or one that produced. And then in Section 15 that's off the map, you have two Atoka producers.

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

Anything further in this case?

MR. CARR: Nothing further.

EXAMINER STOGNER: Does anybody else have anything further in Case No. 10426?

This case will be taken under advisement.

(The proceedings were concluded.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10426, heard by me on 19 December 1991.

, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL DECEMBER 26, 1991.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3