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

2 December 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of Mewbourne Oil Company for downhole commingling, Lea County, New Mexico. CASE 9269

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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I N D E X

BRYAN MONTGOMERY

E X H I B I T S

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MR. STOGNER: Call next Case Number 9269.

MR. TAYLOR: The application of Mewbourne Oil Company for downhole commingling, Lea County, New Mexico.

MR. STOGNER: Call for appearances.

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

MR. STOGNER: Are there any other appearances in this matter?

Will the witness please stand and be sworn?

(Witness sworn.)

MR. KELLAHIN: Mr. Examiner, my first witness is Bryan Montgomery. He's a petroleum engineer with Mewbourne Oil Company.

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BRYAN MONTGOMERY,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

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

A My name is Bryan Montgomery and I'm a petroleum engineer for Mewbourne Oil Company.

Q Mr. Montgomery, would you summarize your educational background for the examiner?

A I graduated from the University of Oklahoma with a petroleum engineering degree, Bachelor of Science in 1984.

Q Subequent to graduation would you summarize your employment experience as a petroleum engineer?

A Worked for Mewbourne Oil Company for the last three years in offices in Woodward, Perryton, and now in the home office in Tyler, Texas.

Q Mr. Montgomery, as part of your responsibilities as an engineer for your company, have you made a review of the application your company has filed for downhole commingling of the Gulf State No. 1-E Well in Lea County, New Mexico?

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A Yes, I have.

Q And have you made a tabulation of exhibits and information pursuant to the Division Rule 303-C?

A Yes, I have.

MR. KELLAHIN: At this point, Mr. Examiner, we tender Mr. Montgomery as an expert petroleum engineer.

MR. STOGNER: Mr. Montgomery is so qualified.

Q Let me direct your attention at this point, Mr. Montgomery, to what is marked as Exhibit Number One and before we explain the information in Exhibit Number One, would you simply identify that for me?

A Yes.

Q Yes, sir, what is this?

A This is a compliance for application for downhole commingling for the rules and regulations, I believe, 303-C.

Q And did you prepare this application for the signature of Mr. Gayland Thompson?

A That's correct. Miss Gayland Thompson is a production secretary.

Q I see. let's turn now to the plat that's attached after the cover letter and using that plat as a reference, would you locate as -- locate for us the spacing

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unit and the section, township, and range in which this well is located?

A Mewbourne Oil Company assigned rights, southwest quarter, the northwest quarter, Section 36 in 20 South, 38 East, Lea County, New Mexico, from surface down to 7520 feet, and all the spacings of the four zones we intend to try to get authorization to commingle are 40 acres; all ownership from the surface down to that 7520 is the same.

Q Would you identify for the Examiner the four formations for which you seek approval to downhole commingle production?

A Those would be the Blinebry, Drinkard, Tubb, and Abo.

Q Let's turn to Exhibit Number Two at this point, Mr. Montgomery, and have you identify and describe this exhibit.

A This is current production as of November 17th, the last three weeks, or so, to show stabilized production of all four zones commingled after the load has been recovered. As you can see, the well is averaging 9 barrels of oil per day, 36 barrels of water, and 21 MCF per day.

Q Let's turn now, sir, to Exhibit Number Three and have you identify this exhibit.

A This is a log section of the Gill (sic) State No. 1. The tops shown on there are from our geolo-

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gist. We do have Mr. Kautz tops picked from the Jerry Sexton division that are very close to our tops here.

Q All right. Let's take a moment, sir, and then have you identify Exhibit Number Four.

A That would be a letter from Jerry Sexton explaining the procedure for the commingling, and listing the New Mexico division, their tops from their division geologist.

Q Let me have you take a moment and describe in a summary way the history of this particular well.

A We initially completed this well in 1972, I believe. We did perforate the Abo first, tested it, tested marginal. Set a plug approximately 6800 feet, a cast iron bridge plug, and moved up the hole and completed in the Blinebry.

Since then we've produced something 40,000 barrels of oil and at this time the Blinebry alone is a marginal and plugging candidate.

Q What is the current status of the wellbore in terms of being perforated in all the formations?

A The current status is as shown on the log. Some of the perforations I've shown on there are overall perforations in one of the -- in the first exhibit there's a sundry notice that lists the exact perforations and treatments. Right now the -- all perforations are open

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and there's a pump set at approximately 7300 feet, pumping oil from all four zones.

Q Would you describe for the Examiner what your information is on bottom hole pressures for the various zones?

A Our information is limited. We have done some work on the bottom hole pressures for each zone based on after acidizng treatments, initial fluid levels, and shut-in tubing pressures. After those calculations were made, they were included as part of Exhibit One.

Q Do you have an opinion as an engineer as to whether or not there is a sufficient pressure differential between any zone to cause fluids to migrate out of one formation into another?

A No, there is no evidence of that whatsoever.

Q Do you see any evidence of fluid incompatibility among any of the zones to be commingled?

A No. There are no precits (sic) have formed to date. We've had no trouble with anything of that sort forming or -- all the API gravity, I believe, is between 36 and 38. It's all similar production.

Q I notice from Exhibit Number Two that you do produce some water with the oil production along with some gas production.

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Do you have an opinion as to what the source of that water is, as to which formation produces the water?

A I believe most of the water comes from the initial -- the Blinebry, the zone that was initially produced. Some extra water is coming from the other zones.

Q Does the water production cause you any concern as an engineer in terms of its adverse impact, if any, upon the commingled production?

A None whatsoever.

Q Your original application, Exhibit Number One, sets forth a proposed allocation formula of, I believe, 25 percent --

A That's --

Q -- for each fo the four zones?

A That's correct.

Q Subsequent to presenting that application have you had an opportunity to make further study of a proposed allocation formula?

A We have. The well is only producing 9 barrels of oil per day, but after the production had stabilized and we had gotten our load back, I did make an attempt to better split up this production and as one of our exhibits I'm showing that. I believe it's Exhibit Five.

Q All right, let's turn to Exhibit Five.

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Yes, sir, you're correct.

Summarize for the Examiner what is the basis upon which you have made this recommendation on allocation of production?

A Well, as I said, it's averaging 9 barrels of oil per day now. Previous to any of the other zones being opened, the well was about 3 barrels of oil per day, so consequently, that's the percentage we use for the Blinebry.

For the other three zones, they were treated. Two of the zones were treated and swab tested together and the third was separate and after the treatment, the swabbing, testing, it was felt that the Abo and the Drinkard was the better zone, as indicated by logs and initially when we first drilled this well, so not a quantitative but a qualitative measure led me to believe that -- to use this percentages that show here on Exhibit Five.

Q Do you have an opinion as to whether it's economically feasible at this time to separately production test each of the zones?

A We don't feel it is, and with this the type of production we're talking about, don't think it's necessary.

Q Let me turn your attention now, Mr. Montgomery, to Exhibit Number Six and have you identify and

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describe that exhibit.

A This, I believe, is the economic evaluation exhibit. It was made back in August when we were deciding what to do with this well.

The well has had about seven pump changes in six years and the production was falling off in the middle of '87 and it was felt that we need to change the pump again.

Q Without going through the details of the economic evaluation, what is your ultimate conclusion?

A The conclusion is that the Blinebry alone would not support any more major expenditures and even a pump change would be questionable at this time, and so efforts were made by a geologist to find other reserves to help to keep this well producing and deplete the Blinebry and these other zones.

Q Will approval of this application in your opinion allow the operator to prolong the economic life of this well and to recover reserves that would not otherwise be recovered?

A That is correct.

Q In the absence of approval of the downhole commingling, what, in your opinion, will the operator have to do?

A We will plug the well.

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Q Let me direct your attention now to the package of notices that have been stapled together and form Exhibit Number Seven.

A Uh-huh.

Q Have you notified and obtained waivers from all offset operators that might be affected?

A We have notified all offset operators and have obtained five out of six waivers to date. The sixth one we have called and they just had not responded yet.

Q Except for the correspondence, Mr. Montgomery, were Exhibits One through Six prepared by you or compiled under your direction and supervision?

A That is correct.

MR. KELLAHIN: That concludes my examination of Mr. Montgomery.

We move the introduction of Exhibits One through Seven.

MR. STOGNER: Exhibits One through Seven will be admitted into evidence at this time.

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Montgomery, in researching out your application I found that in some cases you were within a mile of a certain pool; in particular, the Undesignated War-

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ren Tubb Gas Pool.

A Uh-huh.

Q Do you anticipate that the Tubb zone is a gas zone in your particular well?

A We feel that the Tubb zone is one of the weaker zones in our well. It's questionable whether to perforate it or not, but it is the gaseous zone.

There's not much gas at all from all zones. In fact, the Blinebry was producing some of that gas originally. I believe I've got the GOR written down here somewhere, but I don't feel that the gas from the Tubb zone is of any great measure.

Q Okay. Now, what -- what is the Warren Tubb Gas Pool proration unit sizes?

A All the proration unit sizes I found would be 40 acres.

Q Okay, a gas pool in that part of the world is 160 acres for that particular zone, and I believe that was my next question, but let's cover the Blinebry first.

Was this a Blinebry oil well or a gas well?

A Blinebry oil well.

Q So that had 40-acre dedication.

A That's correct.

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Q All right. As far as your lease out there, how -- how large is your lease.

A It's 40 acres.

Q Okay, now if this is a 160-acre gas proration unit, who owns the other 120 acres? Is that common throughout?

A I believe it is. I'm not prepared to tell you exactly at this time.

Q Because that will make a difference if -- if that is put into the Tubb Gas Pool. You may need to request a nonstandard proration unit or submit me some evidence showing that it's common throughout, and if it is not, we'll have to cover that in the order.

A Okay. Let me tell you, I did look into the oil proration schedules and found all these to be 40-acre spacing, and I'm aware you're talking about a gas pool now, but I wasn't aware that that was covered under our -- that was the Yates production we were talking about, and I, like I say, it's the weakest zone out there. I don't believe we're getting a whole lot of production from that zone, from that interval.

Q Okay. Let's talk about the gas production.

Now you give me a 35, 15/15 and 35 percent split.

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A Right.

Q Does that cover both gas and oil or --

A That really just covers the oil.

Q Okay. Do you have a knockout or a split up of gas production?

A I don't have it at this time. We can -- we can definitely get something like that. I'm trying to find -- I did have a gas/oil ratio for the Blinebry to see what the Blinebry was producing.

Q Now, if you'd provide me with that evidence subsequent to the hearing, so we can come up with some sort of formulation between the gas zones, or the gas production in this.

A That -- that could be done.

Q All right.

MR. KELLAHIN: Perhaps you'd also, Mr. Examiner, give us an opportunity to re-examine that Tubb zone to see whether or not it truly qualifies as a gas well and it may turn out that it's an oil well in a gas pool and we'd like to submit that information to you if it becomes available.

MR. STOGNER: All right. We will subsequent -- we will supplement the hearing with any evidence you come up with --

MR. KELLAHIN: All right, sir.

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MR. STOGNER: -- on those particular items.

A I do have -- I do have here, what I was trying to find, the Blinebry was producing 3700 standard cubic feet per barrel and it was down to 3, like I said, 3 or 4 barrels a day. That would be 11 MCF. That's almost half of the production now between all four zones.

So this -- that will help me provide the information you need, but I do have that much at this time.

Q Are any of the offsetting Drinkard or Abo wells, are they producing any gas that you know of?

A Not that I'm aware of. I'm sure they're producing some.

Q How long have you had this well essentially perforated in all four zones?

A Since August or September, let's see what the date is. We, at the time we talked to Jerry Sexton and said that, go ahead with it and that we'd set up a hearing. That would be August 26th that we began perforating other zones.

Q So prior to that you were in contact with Mr. Jerry Sexton on those zones.

A That's correct.

Q At that time did he mention anything or did you all have any --

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A No. I tried to feel him out on just what to expect and nothing came up. He felt like because there wre four zones it would take a hearing and -- but that because of the nature of the amount of the production that we would probably have to work something out.

Q But did he specifically say anything about the Tubb gas zone or did you all discuss that?

A No, he did not.

Q Okay. Do you know how the well was actually completed out there?

A Yes, I do.

Q Okay. Is that production, do you know the depth of the production string?

A Yes. Seat nipple is set at 7304 feet; the total of the rods and pump, 7290 feet, set a the bottom of the intervals.

Q And what size of production string is that?

A That's 2-3/8ths, 4.7 pound mixed grade.

Q Okay, that's your tubing and how about your casing?

A Casing? That's 4-1/2 inch casing, 11.6 pound, set at 7428.

Q So your whole interval is essentially cased and being 4-1/2, that would make it impossible to dual

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complete in any kind of a --

A That's correct.

MR. STOGNER: Are there any other questions of this witness?

If there is none, Mr. Kellahin, do you have anything further?

MR. KELLAHIN: No, sir.

MR. STOGNER: The witness may be excused.

Mr. Kellahin, I'm going to leave the record open on this case pending the supplemental information that we talked about.

MR. KELLAHIN: Fine.

MR. STOGNER: And if there's nothing further in this case, you may be excused.

MR. KELLAHIN: Thank you.

(Hearing concluded.)

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C E R T I F I C A T E

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

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9269, heard by me on 2 December 1987.

, Examiner
Oil Conservation Division

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