

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

28 November 1984

EXAMINER HEARING

IN THE MATTER OF:

Application of BTA Oil Producers
for compulsory pooling,
Lea County, New Mexico.

CASE
8420

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

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For the Applicant:

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3 MR. STOGNER: Case Number 8420,
4 we will now call.

5 MR. TAYLOR: Application of BTA
6 Oil Producers for compulsory pooling, Lea County, New Mexi-
7 co.

8 MR. KELLAHIN: If the Examiner
9 please, I'm Tom Kellahin of Kellahin and Kellahin in Santa
10 Fe, New Mexico, appearing on behalf of the Applicant, and I
11 have two witnesses to be sworn.

12 MR. STOGNER: Are there any
13 other appearances in this case?

14 Being none, will the witnesses
15 please stand to be sworn?

16 (Witnesses sworn.)

17 ROBIN HUGHES,
18 being called as a witness and being duly sworn upon her
19 oath, testified as follows, to-wit:

20 DIRECT EXAMINATION

21 BY MR. KELLAHIN:

22 Q Miss Hughes, for the record would you
23 please state your name and where you reside?

24 A Robin Hughes, Midland, Texas.

25 Q Miss Hughes, what do -- how are you em-

1
2 ployed by BTA Oil Producers?

3 A I'm a landman.

4 Q Have you previously testified before the
5 New Mexico Commission as a landman?

6 A No.

7 Q Would you describe to the Examiner what
8 has been your education and work experience in the field of
9 land management?

10 A I have a degree in petroleum land manage-
11 ment from the University of Oklahoma.

12 I've been employed by BTA for five years
13 in the capacity of landman, engaged in lease acquisition,
14 contract work, unitization, and title curative and general
15 land work.

16 Q And what was the year that you obtained
17 your degree from Oklahoma?

18 A 1979.

19 Q Pursuant to your employment by BTA have
20 you made a study of the land title matters that are involved
21 in this case?

22 A Yes, I have.

23 MR. KELLAHIN: Mr. Examiner, we
24 tender Miss Hughes as an expert petroleum landman.

25 MR. STOGNER: Miss Hughes, you
said you had a degree in petroleum land management. What
type of a degree is that?

A It's a Bachlor of Business Administation

1 degree.

2
3 MR. STOGNER: Thank you. Miss
4 Hughes is so qualified.

5 Q Miss Hughes, if I may direct your atten-
6 tion to what we've marked as Exhibit Number One, if you'll
7 first of all locate for us the section and within that sec-
8 tion identify for us what BTA proposes to be the proration
and spacing unit for the subject well?

9 A Okay. The proposed well, located in the
10 southwest quarter of Section 24, Township 20 South, Range 34
11 East, Lea County, New Mexico.

12 The southwest quarter, as outlined in
13 red, is the proposed pooled unit for BTA's Lynch No. 2 Well.

14 Q What is the proposed formation or pool
15 from which the subject well, you hope, will produce?

16 A The Morrow formation.

17 Q Is the proposed spacing unit within a
18 mile of the Lea Pennsylvanian Pool?

19 A Yes, it is.

20 Q And do the pool rules for the Lea Penn-
21 sylvanian Pool require the dedication of 160 acres to a Mor-
22 row well?

23 A Yes.

24 Q So that's a little different from the
25 statewide rules for a well at this depth?

A Yes, it is.

Q With regards to the southwest quarter of

1
2 the section, does BTA also have a producing Morrow well in
3 this area?

4 A BTA has a well that is currently shut-in
5 in the southeast quarter of Section 24.

6 Q When we look at the southwest quarter are
7 we looking at a 160 acres that is composed of all Federal,
8 State, or fee acreage, or some combination thereof?

9 A The southwest quarter is all Federal ac-
10 reage.

11 Q Within the southwest quarter how is the
12 working interest divided?

13 A BTA owns 50 percent of the working inter-
14 est in the southwest quarter under a farmout from Exxon.

15 Union Oil Company owns the other 50 per-
16 cent.

17 Q Will the proposed Morrow well be located
18 on the BTA farmout acreage?

19 A Yes, sir.

20 Q Let's go to Exhibit Number Two and have
21 you identify that.

22 A Exhibit Number Two is Form C-102. It's a
23 location plat certified by a registered surveyor as to the
24 proposed location of the Lynch No. 2 Well.

25 Q Let's turn to Exhibit Number Three and
have you describe for us what has been BTA's efforts to ob-
tain voluntary participation by Union of California in the
drilling of this well.

1
2 A Okay. Exhibit Number Three, is BTA's
3 first correspondence with Union Oil Company of California, a
4 letter dated September 11th, 1984, in which the BTA Lynch
5 No. 2 was proposed, requesting that Union Oil Company either
6 farmout their acreage to BTA or elect to join in the
drilling of the well.

7 Q In the September letter was Union
8 notified that this was to be a Morrow test at a location in
9 Section 24 to the approximate depth of 13,600 feet?

10 A Yes.

11 Q What are the terms, generally, of the
12 farmout from Exxon insofar as it requires BTA to commence a
well by a particular date?

13 A The farmin from Exxon required that -- or
14 contained a continuous development provision under which BTA
15 was to drill a second well within 180 days of completion of
16 drilling of the initial well under the Exxon farmout agree-
17 ment, which was the Lynch No. 1.

18 Q What will then be the required commence-
19 ment date for the subject No. 2 Well?

20 A February the 5th.

21 Q All right, after sending the September
22 11th letter to Union, what then is the next thing that oc-
curred?

23 A Union responded to our September 11th
24 letter.

25 Q Is that Exhibit Number Four?

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A Yes, it is.

Q All right.

A Their letter is dated September 20th, 1984, in which Union acknowledges receipt of our letter and indicated that their District Office would recommend that Union participate in the drilling of the proposed well.

Q All right. If you'll turn to Exhibit Five and describe for us what then occurred with regards to Union's participation?

A Okay. Exhibit Five is a letter dated September 24th, 1984, in which we transmitted two copies of our AFE for the well to Union.

Q Okay, and attached to that letter and this Exhibit Number Five is a copy of the AFE that was submitted to Union?

A Yes.

Q Okay. Let's go to Exhibit Number Six now and have you identify that.

A Exhibit Number Six is our letter dated October 24th, 1984, in which we transmitted to Union a copy of our proposed operating agreement.

Q All right, and following Exhibit Number Six, describe Exhibit Number Seven.

A Exhibit Seven is Union's letter of October 31st, 1984, in which they set out some proposed changes to our operating agreement.

Q Are these proposed changes that have been

1
2 accepted and agreed to by BTA?

3 A Yes.

4 Q And how have you evidenced that accep-
5 tance?

6 A By letter dated November 7th, 1984.

7 Q And that's Exhibit Number Eight?

8 A Right. We returned substituted pages for
9 the operating agreement in which we agreed to the proposed
10 changes.

11 Q All right. Let's go back to Exhibit Num-
12 ber Seven now, which is Union's letter of October 31st,
13 1984, and first of all let's turn to the second page and
14 have you describe for us what has been the proposal and what
15 now is the agreement with regards to the overhead charges
16 BTA will assess against Union's interest.

17 A Okay. BTA proposed overhead drilling
18 rate of \$5600 and producing rate of \$560.

19 Union requested a drilling overhead
20 charge be \$5150.

21 Q The drilling well rate overhead charge of
22 \$5150 a month is one that's agreeable and has been accepted
23 by BTA?

24 A Yes.

25 Q All right, and what is the agreement with
regards to the overhead charge for a producing well?

A \$560.

Q So that will be \$560.

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Let's turn back to the front page and let me direct your attention to the paragraph on page one that is numbered number two.

The letter talks about, on page five of the operating agreement, changing 200 percent to 100 percent, and on line 69, changing 400 percent to 300 percent.

Would you describe for us what that means?

A Okay. BTA proposed a nonconsent penalty for 200 percent of 400 percent and Union requested a change to 100 percent, 300 percent, which was agreed to by BTA.

Q Under the New Mexico compulsory pooling statute an operator under a pooling order is entitled to recover out of production the force pooled party's proportionate share of the well cost.

A Right.

Q In addition, the Commission will set a risk factor of up to 200 percent of that number.

In relation to the force pooling penalty maximum, what is the relationship between the statutory maximum and the agreed to penalty that Union has requested under the operating agreement?

A They are the same.

Q Have you received any other correspondence or communications from Union with regards to their willingness to participate in this well?

A No, I have not.

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Q Do you know why Union has not yet agreed to participate in the well?

A Well, I think it's just a matter of the decision has to be made in the California office. It has to go through three different offices and a number of people before the decision can be made, and there's just no knowledge of how long that will take.

Q To your knowledge, has Union expressed to you any terms and conditions for the drilling of the well in terms of its cost, the risk factor penalty, or the overhead charges to which BTA has not agreed?

A No.

MR. KELLAHIN: That concludes my examination of this witness.

We move the introduction of Exhibits One through Eight.

MR. STOGNER: One through what, I'm sorry?

MR. KELLAHIN: Eight.

MR. STOGNER: Exhibits One through Eight will be admitted into evidence.

CROSS EXAMINATION

BY MR. STOGNER:

Q Miss Hughes, on Exhibit Number Seven you refer quite a bit -- or I'm sorry, the letter itself refers back to the operating agreement, several pages.

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Would it be possible to submit an operating agreement to make part of this record?

A Yes, sir.

Q To refer back to.

MR. KELLAHIN: Do you have a copy with you?

Mr. Examiner, with your permission we'll mark that as Exhibit Number Nine.

MR. STOGNER: You already have an Exhibit Nine.

MR. KELLAHIN: Well, let's see, Nine, Ten, Eleven, how about Twelve?

MR. STOGNER: Okay, we'll go with Twelve.

MR. KELLAHIN: For the record, Miss Hughes, I show you what has been marked as Exhibit Number Twelve and ask you if this is the operating agreement that has been submitted to Union upon which their October 31st letter is based?

A Yes, it is.

MR. KELLAHIN: If the Examiner please, we move the introduction of Exhibit Number Nine -- Number Twelve, on which we have marked the agreed to risk factor penalty, as well as the overhead rate charges.

MR. STOGNER: Thank you, Mr. Kellahin. Exhibit Number Twelve will be admitted into evidence at this time.

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Q Miss Hughes, when was this operating agreement -- well, when was it sent to Union?

A October the 24th.

Q So it was actually in part an attachment to the letter of September 24th, Exhibit Five-1, is that right?

A No, sir, it was attached to the letter of October 24th.

Q I'm sorry, October 24th, and that's Exhibit Number Six. Thank you for correcting me.

I'm looking at the Exhibit Number Twelve, the proposed overhead charges for drilling rate is \$5,150 per month.

A Yes, sir.

Q And producing well rate, \$560 per month.

A Yes, sir.

Q Is Union the only interest that did not elect to participate?

A Union is the only other non-operator, yes, sir.

Q And you have been in contact with them according to this letter and BTA and Union Oil of California were both in agreement on this overhead charge.

A Yes, sir.

Q Okay.

MR. STOGNER: I have no further questions at this time of Miss Hughes.

Are there any other questions of Miss Hughes?

If not, she may be excused but I may elect to recall her back to the stand.

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 All right, sir, would you please state your name and occupation?

A I'm Marvin Zoller. I'm the Chief Operations Geologist for BTA Oil Producers.

Q Mr. Zoller, have you previously testified before the Oil Conservation Division?

A Yes, I have.

Q In what capacity was that, sir?

A I was the Regional Development Geologist with Union Oil Company of California.

Q Have you prepared a geologic study of the proposed subject well?

A Yes, sir, I have.

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

MR. STOGNER: Mr. Zoller is so

1
2 qualified.

3 Q Would you please refer to what we've
4 marked as Exhibit Number Nine?

5 MR. STOGNER: Now we get to
6 nine.

7 MR. KELLAHIN: Just a minute,
8 I've got them marked different than he does.

9 Let's go to Ten.

10 MR. STOGNER: Oh, we don't go
11 to Nine yet.

12 MR. KELLAHIN: No.

13 Q All right, sir, would you identify Exhi-
14 bit Number Ten for us?

15 A Exhibit Number Ten is a cross section ex-
16 tending through three wells in the south end of the Lea
17 Field.

18 The plat up in the upper righthand cor-
19 ner shows those three wells. It's A-A', north to south. In
20 other words, we're viewing it looking east. The red dot re-
21 fers to the well that we propose to drill. It's a direct
22 offset to BTA's No. 1 Lynch.

23 The reason I wanted to submit this one
24 first is to give some idea of the complexity of what we're
25 dealing with. The center well, which is the BTA well, you
will notice a large area colored yellow, which is the sand
from which this well is producing from.

To the west of that, or to the left of

1 that, which is really northwest, is the Marathon No. 11 Lea
2 Unit, and you'll notice in the depth column a number of per-
3 forated intervals for that well. They're labeled one, two,
4 and three.

5 Back in 1963 they completed this well
6 from the perforated interval noted at one. It produced 215
7 M -- million cubic feet of gas from this interval; was re-
8 completed in 1965 by plugging it back and producing from the
9 two intervals marked two.

10 This interval produced almost 6-billion
11 cubic feet of gas and in about November of 1983 they drilled
12 out the plug, perforated the interval labeled as three.
13 They tell me that it will produce one to one and a half mil-
14 lion cubic feet of gas per day but as of November of '84 it
15 still is not on the line yet.

16 Now, the point of all that is, the first
17 two years of this well's life it only made 215-million cubic
18 feet of gas out of the same -- top of the same sand which we
19 are perforated in.

20 They are now back in that sand, along
21 with other perforations, and claim that the well will make
22 one to one and a half million cubic feet a day, which I
23 think implies that the porosity and permeability of that
24 zone and that well is not as good as we're going to find
25 that it is in the BTA Lynch No. 1.

26 The BTA No. 1 Lynch flowed 15-million
27 cubic feet of gas a day on a drill stem test. Later, on

1
2 production test it flowed 6815 Mcf of gas plus 660 barrels
3 of oil per day on a one-hour test.

4 This has not been connected to the pipe-
5 line yet so we do not have a calculated open flow.

6 To the right on the cross section, which
7 is southwest, colored yellow on the Shell No. 1 Shell Fed-
8 eral One-L, there is very little sand in this interval. I
9 have noted a little blue on the porosity side of this log,
10 indicating that I would expect it to be wet if it is porous
because the bottom of the sand in the BTA well is wet.

11 Q Let me ask you this, Mr. Zoller. Is Miss
12 Hughes correct in understanding that the spacing for this
13 Morrow interval is going to be 160 acres because of its
proximity to the Lea Pennsylvanian Field?

14 A Yes, sir.

15 Q Would you describe generally, based upon
16 your study and in particular on these three wells and the
17 cross sections, whether we can expect these Morrow stringers
18 to be continuous between wells or whether you see them being
19 discontinuous?

20 A I think this exhibit shows very well that
21 they are extremely discontinuous. There are a lot of colors
22 in this map. A lot of them are just nothing but for corre-
lation purposes.

23 But the two brown zone, the yellow zone,
24 and the lavender zone are all zones that have either pro-
25 duced or made gas.

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The brown zones in the Marathon well we feel we're going to get a little gas out of that. We had slight gas shows when we drilled, but the zones are like two foot thick.

Over on the Shell well, they made over 3-million cubic feet of gas a day on a drill stem test of the two lavender zones which were perforated and then drill stem tested through perforation.

Those same zones in our well are not only extremely thin, they're shaley, thin, dirty, and we have o shows whatsoever in those.

The lavender zone, as you notice in the Marathon well, is virtually gone; dirty sand or shale.

Q When we look at the Morrow gas stringer in the BTA well that has been perforated, what is the approximate thickness of that sand stringer?

A Oh, Lord, the sand itself is 90 feet thick.

Q What portion of that sand stringer do you believe to be the productive interval?

A About 44 feet where porous and permeable.

Q In picking a location in the southwest quarter of Section 24, do you have an opinion as to what the maximum productive thickness you anticipate encountering in a Morrow stringer?

A Well, if we'll back to Exhibit Nine, this is a structure map on the top of the Morrow Clastics, which

1
2 is a little bit -- a little ways above the sand itself, but
3 the last point that I found that you could map on.

4 On this map I have the No. 2 Well con-
5 toured about 30 feet low to the No. 1 Well. If we are in
6 fact 30 feet low, I think we can expect to have 14 feet of
7 pay above water in the No. 2 Well.

8 Q The structural relationship to the pro-
9 duction insofar as it affects the southwest quarter of 24 is
10 one that's very sensitive to structure, is it not?

11 A Very.

12 Q Let's go to Exhibit Number Eleven, sir,
13 and have you describe for us what your opinion is concerning
14 the position of the water in the Morrow formation.

15 A Exhibit Number Eleven is a sonic log on
16 the left of the BTA No. 1 Lynch and on the right is a com-
17 puter printout based on a foot by foot analysis of all the
18 logs.

19 It shows in blue the water saturation and
20 it shows in black the hydrocarbon, and I have picked a point
21 at 13,112 feet, which I consider to be positive water.

22 Now water might be above that but our
23 problem there is that whereas we have about a 30-foot sec-
24 tion, from 13,083 down to 13,108, that appears to be in-
25 creasing steadily in water, that same section as marked by
the two red lines is steadily decreasing in porosity.

And the only rule I've ever found that
does not fail in geology is that if the porosity goes down,

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the water goes up, so I can't say that we have water above 13,112, but using a top of the sand at 13,068 and 13,112 for water, we come up with an absolute maximum of 44 feet of gas column, the top two feet of which is relatively tight and the bottom 10 feet of which is also relatively tight.

Q In terms of assessing a risk factor penalty against the Union interest, and based upon your geology and your study, do you have an opinion as to what that percentage ought to be?

A Of course I think it ought to be 200 percent for the simple reason that it's Morrow and we could also go through all the reasons of the changes in lithology east and west and north and south, plus the water and the fact that we expect to be probably 20 to 30 feet low, at least.

Q In your opinion is the risk diminished because of its proximity to the BTA Well in the southeast quarte of the section?

A My opinion is that the risk -- oh, diminishes because of it, yes.

Q All right. Would it diminish to such an extent that it would be less than the maximum 200 percent?

A You mean crowding the -- crowding the other well closer than we are?

Q No, sir, I meant in terms of the maximum risk factor penalty, does its proximity as you've picked it between the two wells, is that a situation that would cause

you to believe the risk is less than 200 percent?

A No. In fact, we've crowded it just as close as we legally can and I think it's still an awfully risky location.

Q Were Exhibits Nine, Ten, and Eleven
prepared by you?

A Yes.

MR. KELLAHIN: We move the introduction of Exhibits Nine, Ten, and Eleven.

MR. STOGNER: Exhibits Nine, Ten, and Eleven will be admitted in evidence.

I have no questions of Mr. Zoller.

Are there any questions of this witness?

If not, he may be excused at this time.

Mr. Kellahin, do you have anything further in this case?

MR. KELLAHIN: No, sir, not in this case.

MR. STOGNER: Does anybody else have anything further in Case Number 8420?

If not, this case 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 before the Oil Con-
servation Division was reported by me; that the said tran-
script 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. 8420,
heard by me on November 28, 1984.
Michael E. Hogner, Examiner
Oil Conservation Division