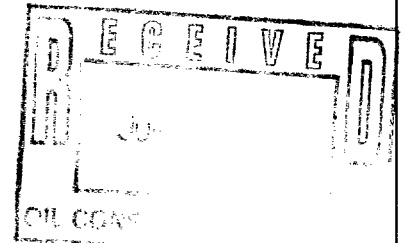


STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING)
CALLED BY THE OIL CONSERVATION)
DIVISION FOR THE PURPOSE OF)
CONSIDERING:)
)
APPLICATION OF MANZANO OIL)
CORPORATION)
_____)

CASE NO. 11,308



ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

June 15th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, June 15th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

STEVEN T. BRENNER, CCR
(505) 989-9317

I N D E X

June 15th, 1995
 Examiner Hearing
 CASE NO. 11,308

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APPLICANT'S WITNESSES:	
<u>MIKE BROWN</u> (Geologist)	
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* * *

E X H I B I T S

Applicant's	Identified	Admitted
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* * *

A P P E A R A N C E S

FOR THE DIVISION:

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FOR THE APPLICANT:

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Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

1 WHEREUPON, the following proceedings were had at
2 9:45 a.m.:

3 EXAMINER CATANACH: Okay, at this time we'll call
4 Case 11,308.

5 MR. CARROLL: Application of Manzano Oil
6 Corporation for an unorthodox oil well location, Lea
7 County, New Mexico.

8 EXAMINER CATANACH: Are there appearances in this
9 case?

10 MR. CARR: May it please the Examiner, my name is
11 William F. Carr with the Santa Fe law firm Campbell, Carr
12 and Berge.

13 We represent Manzano Oil Corporation in this
14 matter, and I have one witness.

15 EXAMINER CATANACH: Any additional appearances?
16 Will the one witness please stand to be sworn?

17 (Thereupon, the witness was sworn.)

18 MIKE BROWN,
19 the witness herein, after having been first duly sworn upon
20 his oath, was examined and testified as follows:

21 DIRECT EXAMINATION

22 BY MR. CARR:

23 Q. Would you state your name for the record, please?

24 A. Mike Brown.

25 Q. And where do you reside?

1 A. Roswell, New Mexico.

2 Q. By whom are you employed?

3 A. Manzano Oil Corporation.

4 Q. And what is your current position with Manzano?

5 A. Geologist.

6 Q. Mr. Brown, have you previously testified before
7 this Division?

8 A. I have.

9 Q. At the time of that testimony, were your
10 credentials as a petroleum geologist accepted and made a
11 matter of record?

12 A. They were.

13 Q. Are you familiar with Manzano's proposed "SV"
14 Bobwhite Federal Number 1 well?

15 A. Yes, I am.

16 MR. CARR: Are the witness's qualifications
17 acceptable?

18 EXAMINER CATANACH: They are.

19 Q. (By Mr. Carr) Mr. Brown, would you briefly state
20 what Manzano seeks with this Application?

21 A. We seek approval of an unorthodox oil well
22 location for the proposed "SV" Bobwhite Federal Number 1
23 well, to be drilled 2355 feet from the south line, 400 feet
24 from the west line of Section 4, 19 South, 34 East, Lea
25 County, New Mexico.

- 1 Q. And to what formation are you proposing to drill?
- 2 A. We propose to drill to the Devonian.
- 3 Q. Are there secondary objectives in this well?
- 4 A. Yes, there is. We'll be looking at the Bone
- 5 Spring and the Wolfcamp in particular.
- 6 Q. Is this a wildcat Devonian prospect?
- 7 A. Yes, it is.
- 8 Q. And what are the spacing requirements for
- 9 Devonian wells in this area?
- 10 A. On the wildcat, it would be 40-acre spacing, 330-
- 11 foot setback.
- 12 Q. How much unorthodox is this well?
- 13 A. It's 45 feet too close to the center lease line
- 14 there in Section 4.
- 15 Q. And why is Manzano proceeding to drill at an
- 16 unorthodox well location?
- 17 A. We believe that geologic evidence dictates that
- 18 we drill in this location.
- 19 Q. Let's go to what has been marked for
- 20 identification as Manzano Oil Corporation Exhibit Number 1.
- 21 Would you identify this and review it for Mr.
- 22 Catanach?
- 23 A. This is the land situation directly surrounding
- 24 the proposed well. I've colored Manzano-operated acreage
- 25 in yellow.

1 The Bobwhite Federal Number 1 is shown there in
2 Section 4, once again, 2355 from the south line, 400 from
3 the west line.

4 Q. What acreage are you going to dedicate to the
5 well?

6 A. It would be a 40-acre northwest-of-the-southwest
7 unit.

8 Q. And at this location there is no other offset
9 operator on whom the well is encroaching?

10 A. That is correct.

11 Q. Let's go to Exhibit Number 2. Would you identify
12 that?

13 A. This is a seismic map on the top of the Devonian.
14 It has been converted to depth. The scale is 1 to 1000.
15 Your contour interval is 25 feet. And I've indicated the
16 Bobwhite Federal Number 1 with the arrow.

17 Q. Basically, what you've got is a Devonian ridge
18 running through the area; is that not correct?

19 A. That is correct, and the proposed well is at or
20 near the top.

21 Q. By moving to this unorthodox location from a
22 standard location, are you gaining any structural
23 advantage?

24 A. No, we'll be possibly slightly downdip.

25 Q. And so what is the basis for the unorthodox

1 location?

2 A. The basis is porosity development. The feature
3 appears tighter on the top, and we show that on the next
4 exhibit.

5 Q. Now, you're proposing to drill this -- This is
6 the first well you're drilling in this area?

7 A. Yes.

8 Q. And you're proposing to drill in the southwest
9 quarter of Section 4?

10 A. That is correct.

11 Q. And why are you locating the first well in the
12 southwest of Section 4?

13 A. The agreement with Unocal dictated that this
14 would be our first location, would be in the southwest
15 quarter.

16 Q. All right, let's move to Manzano Exhibit Number
17 3. Would you first explain to the Examiner what this shows
18 and then review the significance of this exhibit?

19 A. This is a line of section, seismic line of
20 section, that runs north-south through the Bobwhite Federal
21 Number 1, which is noted.

22 This is a color inversion map, and what color
23 inversion is, it's an advanced processing technique that
24 you can apply to the 3-D survey that converts the seismic
25 traces to velocity. And by doing that, you can use

1 velocity to infer porosity. It's closely similar to what a
2 sonic log does.

3 Q. You're not measuring time here; you're actually
4 measuring the velocity?

5 A. We are measuring the velocity.

6 Q. Okay, and what does this exhibit show you?

7 A. Okay, what I've got shown, if you look on the
8 right-hand side, I've noted the Devonian and the Woodford
9 shale. The Devonian top is noted in a yellow line.

10 The velocities have been color-coded. That's why
11 it's called color inversion. The purples and blacks
12 indicate the highest velocities that you see. The higher
13 the velocity, the lower the porosity you would expect.

14 As you move up in the color scale, the darker
15 blues are a little lower velocity, the light blues have
16 probably the most porosity within a limestone unit. Up in
17 the Woodford shale you have shales of very low velocities,
18 and they show up in reds and browns.

19 What we're showing here is, in the Devonian, in
20 the Bobwhite Federal Number 1, as you enter into the
21 Devonian, you come into the lowest-velocity rock that you
22 see within the Devonian, and what should be the highest
23 porosity. And then as you move through the Devonian, you
24 go into very, very tight rock.

25 As you move south from that well, which would be

1 to your left, you move into dark blues, and then into
2 purples.

3 And what we're most concerned about in the
4 drilling of this well, is to be high on the structure
5 without any porosity to get the oil to the reservoir. We
6 feel certain we'll have an oil column, but the productivity
7 of the well will be directly related to how much porosity
8 that we have in that upper part.

9 Q. And so this location in the southwest quarter
10 gives you both structural advantage, but primarily gives
11 you porosity?

12 A. That is correct.

13 Q. Let's move to what has been marked Manzano Oil
14 Corporation Exhibit Number 4. Would you identify and
15 review that?

16 A. This is a time slice that goes through the
17 Devonian at two seconds down, which will really reflect
18 that light blue that we saw in the previous exhibit. I
19 just wanted to show it on a map basis.

20 And north -- The north and south relationships
21 off our shoot was tilted, so...

22 I've noted the Bobwhite Number 1. Once again,
23 you see it's in the light blue porosity development. And
24 if you go immediately south or southeast, you move into
25 tighter rock.

1 And so what we have in the top of the Devonian is
2 just a series of porosity developments with tight spots
3 within it. And we want to be within a good porosity
4 interval.

5 Q. Can you identify what's been marked as Exhibit
6 Number 5?

7 A. That is the affidavit.

8 Q. It shows that notice has been provided to --

9 A. Yes.

10 Q. -- Unocal?

11 And that's just to keep them advised of your
12 plans to comply with the agreement and in fact locate the
13 well in the southwest quarter?

14 A. That is correct.

15 Q. In your opinion, will approval of this
16 Application and the drilling of the proposed well result in
17 the recovery of hydrocarbons that otherwise would be left
18 in the ground?

19 A. That is correct.

20 Q. Will approval of the Application otherwise be in
21 the best interest of conservation and the protection of
22 correlative rights?

23 A. Yes, it would.

24 Q. Were Exhibits 1 through 5 either prepared by you
25 or under your direction and supervision?

1 A. They were.

2 MR. CARR: At this time, Mr. Catanach, we move
3 the admission of Manzano Oil Corporation Exhibits 1 through
4 5.

5 EXAMINER CATANACH: Exhibits 1 through 5 will be
6 admitted as evidence.

7 MR. CARR: That concludes my examination of Mr.
8 Brown.

9 EXAMINATION

10 BY EXAMINER CATANACH:

11 Q. Mr. Brown, Manzano is the operator in Section 5?

12 A. Yes. We have a farmout from Unocal of the entire
13 pipeline federal unit, which extends even off the map and
14 to the south.

15 Q. Have you utilized this kind of technology in
16 drilling previous wells?

17 A. Yes, we've just finished our third well in
18 Midland County using this -- in the Canyon formation, and
19 it has been extremely impressive. We've hit exactly what
20 we anticipated, based on the velocity.

21 Q. Do you have sufficient confidence in it to
22 believe that a difference of 45 feet will make that big a
23 difference?

24 A. The movement to the south is what we were
25 concerned with. We could move farther north, but yes,

1 we're as far south as we're comfortable with.

2 And I will say, when we proposed the well, we did
3 not believe it was going to be unorthodox. And once we got
4 the survey back, there was a little bit of difference
5 between the 3-D surveying and the on-ground, and it ended
6 up that it was unorthodox, so...

7 Q. Your data indicates that at the highest point in
8 that structure you lose some porosity; is that correct?

9 A. That is correct. At the very, very tip-top, it
10 appears to be a lot tighter.

11 Really, the Devonian out here and in Lea field is
12 just a series of porosity developments. There's tight
13 spots, and there's very porous spots.

14 We will -- Over time, if we get into a porous
15 spot, we'll be able to see -- you'll see all that catacomb
16 of porosity.

17 But if you get into a tight spot initially, you
18 just can't see the reservoir. You'll be within the oil
19 column, but just won't be able to drain it.

20 Q. How much structure are you losing at your
21 proposed location?

22 A. It all is basically flat. We're probably within
23 five feet.

24 EXAMINER CATANACH: Okay, I have nothing further
25 of the witness.

1 MR. CARR: That concludes our presentation in
2 this case.

3 EXAMINER CATANACH: All right, there being
4 nothing further, Case 11,308 will be taken under
5 advisement.

6 (Thereupon, these proceedings were concluded at
7 9:57 a.m.)

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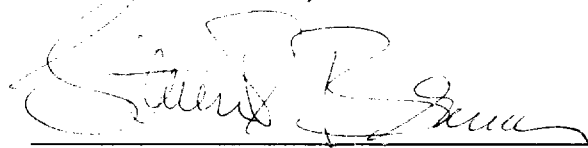
CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

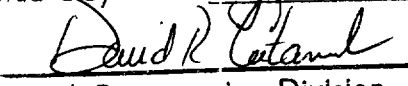
I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL June 18th, 1995.



STEVEN T. BRENNER
 CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11308, heard by me on June 15 1995.

David R. Catant, Examiner
 Oil Conservation Division