

1 STATE OF NEW MEXICO
2 ENERGY AND MINERALS DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BLDG.
5 SANTA FE, NEW MEXICO

6 11 July 1984

7 EXAMINER HEARING

8 IN THE MATTER OF

9 Application of Robert N. Enfield CASE
10 for an unorthodox gas well location, 8259
11 Eddy County, New Mexico.

12 BEFORE: Richard L. Stamets, Examiner
13

14 TRANSCRIPT OF HEARING
15

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17 A P P E A R A N C E S
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20 For the Oil Conservation
21 Division:

22 For the Applicant: Owen M. Lopez
23 Attorney at Law
24 HINKLE LAW FIRM
25 P. O. Box 2068
Santa Fe, New Mexico 87501

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A P P E A R A N C E S

For Marathon: William F. Carr
Attorney at Law
CAMPBELL & BLACK P.A.
P. O. Box 2208
Santa Fe, New Mexico 87501

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3 MR. STAMETS: We'll call next
4 Case 8259. Application of Robert N. Enfield for an unortho-
5 dox gas well location, Eddy County, New Mexico.

6 Call for appearances in this
7 case.

8 MR. LOPEZ: Mr. Examiner, my
9 name is Owen Lopez with the Hinkle Law Firm, Santa Fe, New
10 Mexico, appearing on behalf o the applicant and since I have
11 no witnesses to be sworn, I would like to request that the
12 Examiner take administrative notice and incorporate into the
13 record of this hearing the record in Case Number 8177.

14 And I just have one observation
15 I'd like to make when it's appropriate about how I would
16 like the Examiner to review the record in Case Number 8177,
17 if I may.

18 MR. STAMETS: Mr. Carr, you
19 have something to say?

20 MR. CARR: May it please the
21 Examiner, my name is William F. Carr with the law firm Camp-
22 bell and Black, P. A., of Santa Fe, appearing on behalf of
23 Marathon Oil Company in this case.

24 We are opposed to the incor-
25 poration of the record as proposed by Mr. Lopez.

That was a separate case. That
was a case involving a different well. Mr. Lopez has not
elected to take the decision of the Examiner for a de novo

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hearing.

We think it would be appropriate if they decided and proposed to drill a well at this location that they come forward, put on a full case, and afford us the opportunity to cross examine at this time.

I also have one more brief comment that I will make whenever you deem it appropriate, but I would request that -- I can say that Marathon's position is that if an order is entered at the Examiner Hearing based on an incorporated record, that as a party of record they will immediately ask that this case be heard before the full Commission de novo.

It seems to me in terms of getting as quick a resolution of this dispute as possible, that it might be wise to continue to a Commission Hearing at this point in time and avoid the extra time to do that.

MR. STAMETS: Let's go off the record a second.

(Thereupon a discussion was had off the record.)

MR. STAMETS: Back on the record and we will temporarily continue Case 8259.

(Thereupon Case 8259 was continued until later in the same docket.)

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MR. STAMETS: Okay, we'll go
back on the record in Case 8259 and state that Case 8259 is
continued to the Commission Hearing on August 3rd, 1984.

(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 that the foregoing Transcript of Hearing before the Oil Conservation Division 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 report of the proceedings in the Examiner hearing of 8257 heard by me on 7-11 1984.
Richard J. [Signature], Examiner
Oil Conservation Division

1 STATE OF NEW MEXICO
2 ENERGY AND MINERALS DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BLDG.
5 SANTA FE, NEW MEXICO

6 3 August 1984

7 COMMISSION HEARING

8 IN THE MATTER OF:

9 Application of Robert N. Enfield CASE
10 for an unorthodox gas well location, 8259
11 Eddy County, New Mexico.

12 BEFORE: Commissioner Joe Ramey, Chairman
13 Commissioner Ed Kelley

14 TRANSCRIPT OF HEARING

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17 A P P E A R A N C E S
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20 For the Oil Conservation
21 Division:

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22 For the Applicant:

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A P P E A R A N C E S

For Marathon: William F. Carr
Attorney at Law
CAMPBELL & BLACK P.A.
P. O. Box 2208
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EDSEL NEFF

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MR. RAMEY: The hearing will
come to order.

We'll call next Case 8259.

MR. PEARCE: That case is on
the application of Robert N. Enfield for an unorthodox gas
well location in Eddy County, New Mexico.

Call for appearances at this
time, please.

MR. LOPEZ: May it please the
Commission, my name is Owen Lopez with the Hinkle Firm in
Santa Fe, New Mexico, appearing on behalf of the applicant.

I have three witnesses to be
sworn.

MR. CARR: May it please the
Commission, my name is William F. Carr with the law firm
Campbell and Black, P. A., of Santa Fe, appearing on behalf
of Marathon Oil Company, and I have one witness.

MR. PEARCE: Are there other
appearances?

Could I ask all prospective
witnesses to rise, please?

(Witnesses sworn.)

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ROBERT N. ENFIELD,

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

DIRECT EXAMINATION

BY MR. LOPEZ:

Q Would you please state your name and
where you reside?

A Robert N. Enfield, Santa Fe, New Mexico.

Q Are you the applicant in this case?

A Yes, I am.

Q Are you the proposed operator of the well
which is the subject matter of this application?

A Yes, I am.

Q Are you familiar with the operational
matters in this area generally?

A Yes, I have this well plus additional
wells in the area.

Q Have you previously testified before the
Oil Conservation Commission?

A Yes, I have.

Q Were you -- were your qualifications
accepted as a matter of record as an operator knowledgeable
in this area?

A Yes.

MR. LOPEZ: I tender the

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witness in these affairs.

MR. RAMEY: Mr. Enfield is so qualified, Mr. Lopez.

Q Would you please briefly state what it is that you seek in this case?

A Yes. I seek the approval of an unorthodox gas well to be drilled at a depth sufficient to test the Indian Basin Upper Pennsylvanian formation in Section 18, Township 21 South, Range 23 East, Eddy County, New Mexico; said well to be drilled 1200 feet from the south line and 330 feet from the east line of Section 18. This well would replace the Robert N. Enfield Bonnell No. 1, located 1650 from the south and east lines of said Section 18.

Q Mr. Enfield, I'd now ask you to refer to what's been marked as Exhibit Number One and ask you to identify and describe it.

A It's a land plat showing the acreage within this area. The acreage outlined in yellow is acreage that I own or am the operator of, there are other additional owners in it.

It shows Section 18, the two direct offsets, 17 -- 17 is operated by myself -- 19, which is operated by -- I believe it's operated by El Paso at this time. They've taken over from Odessa Natural.

Section 20 is operated, the diagonal offset Section 20 is operated by Robert Enfield.

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There are only two direct and one diagonal producing locations offsetting Section 18. All of the lands in all four sections are Federal lands, so the royalty ownership is common across all lands.

MR. RAMEY: Excuse me, Mr. Lopez.

You say you operate the well in 17 and --

A 17 and in Section 20.

MR. RAMEY: Thank you, Mr. Enfield.

Q Could you briefly describe essentially what the mineral ownership is in those sections?

A The mineral ownership is all Federal, total.

Q Right, and the --

A The leasehold --

Q -- working interest owners?

A All right. The leasehold ownership out of the four sections involved, either myself or the participants in the well in Section 18 own 75 percent of it.

Marathon owns 18 percent. The additional is owned by small owners who have not made any appearance. Wiser Petroleum and Anadarko are the only two other owners.

Q Mr. Enfield, could you now discuss the well production to date of the various wells, the one that is producing in Section 18 --

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A All right.

Q -- as well as the offset wells?

A The well in Section 18 has made approximately 14.75 Bcf until -- these figures are up to January of '83.

The El Paso Standard Federal has made approximately 3.2 Bcf.

My two wells in 17 and 20 have made approximately 24 Bcf to date.

MR. RAMEY: Each?

A Each.

Q Mr. Enfield, there were a couple of wells drilled in Section 8, which is north of Section 17.

A Correct. Odessa Natural drilled the well in the southwest southwest of Section 8. That well DST'ed a slight amount of gas. Pipe was run and an unsuccessful completion, the well was P&A'd.

In the southeast quarter of Section 8 at a 1650 from the south and east line, I drilled that well in 1965, I believe. We DST'ed gas in the Cisco Canyon. We ran pipe. We had flow rates as high as a million two, but probably the stabilized production would have been 150 to 300,000 cubic feet per day.

At Eighteen Cents at that time, I found the well noncommercial. I think under the present day at Three Dollars, an operator would have to give it some different considerations. I'm not saying it was a commercial

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well, but the wells have shown -- that well had shown quite a bit of gas.

Q As operator of the No. 1 Bonnell Well, located in Section 18, would you please review the history of that well and your experience with it?

A All right. That well, we feel, has been in the limestone formation and in later exhibits you'll see what we're talking about.

The well has never been a consistent performing well as these other wells in the field have been; however, we do have identical bottom -- surface shut-in pressures as all, the whole field has.

The well has declined over a 19-year period to where we felt the well is basically noncommercial and we want to drill another well that would be commercial and get our fair share of the gas under the acreage.

Q Drawing from your experience as an oil and gas operator and together with the advice from your consultants, are you of the opinion that additional hydrocarbons remain to be developed under Section 18?

A Yes, we are.

Q From your position as operator of the exhibits No. 1 Bonnell Well, is remedial work on the existing well a financially acceptable means of securing production for additional hydrocarbons?

A No. According to my engineers we feel like we cannot get in there. Testimony will show we have

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2 communication up and down parts of the hole and a bridge
3 plug, we don't think after nineteen years we could even get
4 it out.

5 Q Then, in effect, the well you're seeking
6 approval for the location here today is a substitute well
7 for the existing Bonnell Well?

8 A Yes, that is correct. It would substi-
9 tute for the existing Bonnell Well.

10 MR. LOPEZ: If the Commission
11 please, I would request that administrative -- that it take
12 administrative notice of -- and incorporate the record of
13 the previous hearings that have involved these cases, and
14 for the record those are Case Number 6845 and Order R-6310,
15 and Case Number Number 8177.

16 MR. RAMEY: What was the second
17 one, please?

18 MR. LOPEZ: 8177.

19 The first case involved the ap-
20 plication of Marathon for an unorthodox well location, which
21 was heard on March 26th, 1980.

22 Q Do you have anything further in this
23 case?

24 A No.

25 MR. LOPEZ: That concludes our
direct examination of this witness.

MR. RAMEY: Any questions of
Mr. Enfield?

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2 MR. CARR: Mr. Ramey, I didn't
3 hear you rule on Mr. Lopez' request to incorporate those
4 cases into the record.

5 We would object to the incor-
6 poration of a case filed by Marathon for unorthodox loca-
7 tion, since it really isn't relevant to anything before the
8 Commission today. The case for an unorthodox location will
stand on its own merit.

9 MR. LOPEZ: Mr. Ramey, it's
10 clear that the Marathon case is appropriate for considera-
11 tion in your deliberations here today.

12 Approval for their unorthodox
13 well was granted after the hearing in that case at a loca-
14 tion directly south of the proposed location here, and the
15 well is located in the same pool that is in that and I think
16 the Commission would be well advised to consider that case
if it cares to in its deliberations.

17 MR. RAMEY: Where is the Mara-
18 thon well that you're talking about? Is that the one in
19 Section 30?

20 MR. LOPEZ: Yes, it's --

21 A It's 800 feet from the north line of Sec-
22 tion 30 and 200 feet from the east line, diagonally offset-
ting my production in Section 20.

23 MR. CARR: Mr. Ramey, we would
24 submit that we have no objection to the record showing that
25 there is an unorthodox well location there, but simply to

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2 incorporate testimony in prior cases where they may or may
3 not have been (not understood), the issues really may or may
4 not be the same as our case.

5 MR. RAMEY: Mr. Lopez, the Com-
6 mission will take administrative notice of these cases, how-
7 ever we will not incorporate those cases into the record.

8 MR. LOPEZ: Okay.

9 MR. RAMEY: Do you have any --

10 MR. LOPEZ: Nothing further.

11 MR. RAMEY: Mr. Carr.

12 CROSS EXAMINATION

13 BY MR. CARR:

14 Q Mr. Enfield, I'd like to direct your at-
15 tention to Section 20. I believe you have testified that
16 you operate Section 20.

17 A Yes, I do.

18 Q What interest does Marathon hold in --

19 A 42.75.

20 Q And is the entire 640 acres dedicated to
21 the well that you operate --

22 A Yes, it is.

23 Q -- in that section? Your proposed loca-
24 tion for the unorthodox location is both south and east of
25 the existing well in Section 18, is it not?

A Correct.

Q You've moving toward the spacing unit

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2 that was required in Section 20.

3 A Correct.

4 Q You stated this well was drilled 19 years
5 ago. Was it drilled in 1965, that is the existing well in
6 this unit?

7 A Yes, sir.

8 Q What is the total production from that
9 well to date?

10 A 4.75 Bcf in round numbers.

11 MR. PEARCE: I'm sorry, is that
12 "4" or "14"? I thought I heard --

13 A 4.75.

14 MR. PEARCE: All right, thank
15 you.

16 Q And it is currently producing?

17 A At a marginal rate, noncommercially, we
18 feel.

19 Q How much acreage is dedicated to that
20 well?

21 A All of Section 18, which is a short sec-
22 tion, 57404, I believe. I can look it up but I'm sure
23 that's right.

24 Q Who else owns acreage in 18, can you tell
25 us that?

A The ownership in Section 18, Cities Ser-
vice has 13.3; El Paso -- the major owners, there are some
tiny ones -- El Paso has 14.4; L. R. French has 3.3; Tom In

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gram has 6.4, almost 6.5; E. E. Nearburg, et al, has 6.5; Sun has 22 percent; Superior has 6.9; Robert Enfield has 20.8, almost 21.

Q Marathon owns no interest in that?

A Marathon has no interest whatsoever. They have no interest whatsoever in Section 17, either.

Q Do they have an interest in 19?

A Yes, sir. 160.

Q Now are there any offsetting wells to the either north or west in this formation?

A Not any -- not producing wells. The wells in Section 8 both showed gas and one -- the one I drilled under present circumstances you might think about leaving it completed.

Q That's directly north in Section 7.

A No.

Q And there are no wells in this formation in either 12, 13, or 24?

A No, sir, you will note by further testimony why.

MR. CARR: I have no further questions.

MR. RAMEY: Any other questions of Mr. Enfield? He may be excused.

MR. LOPEZ: I now call Mr. Neff.

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MR. LOPEZ: Oh, I'd like to offer at this time Exhibit Number One.

MR. RAMEY: Only Exhibit Number One?

MR. LOPEZ: Yeah, or I can wait till the end of the hearing.

MR. RAMEY: That would be -- either way, Mr. Lopez.

EDSEL NEFF,

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

DIRECT EXAMINATION

BY MR. LOPEZ:

Q Would you state your name, please, and where you reside?

A My name is Edsel Neff. I reside in Roswell, New Mexico.

Q And what is your relationship to the applicant in this case?

A Consulting geologist.

Q Have you previously testified before the Oil Conservation Division as a geologist and particularly with respect to the matters before the Commission today and had your qualifications as an expert geologist accepted as a matter of record?

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A Yes.

MR. LOPEZ: I tender Mr. Neff as an expert geologist in this case.

MR. RAMEY: He is so qualified, Mr. Lopez.

A In front of you here is a map that was presented by Marathon in the previous case.

Q Are you referring to what's been marked as Exhibit --

A Exhibit Number Two.

Q Okay. Would you go ahead and describe what this exhibit shows?

A This exhibit here is a structure map on top of the Indian Basin Cisco Reef, and as you can see, the contour interval is 100-foot intervals. The heavy line on the lefthand side of the map is a fault. You see it separates production on the east from nonproduction on the west.

To the north is the red dashed line. This here is a limit of 2 percent porosity, essentially it's a cutoff of acres that could be productive from acres non-productive. By nonproductive I mean everything north of the red dashed line; that that could be productive is everything south of the red dashed line.

In the north part of the map you have a northeast/southwest dashed line. This is a limestone dolomite facies or reef/non-reef, the reef being to the south of

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2 this limestone dolomite facies, non-reef to the north.

3 As you can see, there are numerous wells
4 here that -- in this dolomite reef section that had produced
5 from this Cisco Reef.

6 In Section 18 the Federal Bonnell, 1650
7 from the south and east. This has zero dolomite in it,
8 while I feel it's close to the limestone-dolomite facies and
9 it's produced approximately 4.8 billion cubic feet of gas.

10 Our proposed location, 1200 feet from the
11 south, 330 from the east, Section 18, I feel is going to be
12 in a dolomite facies, which thereupon will have better poro-
13 sities, permeabilities, better production, and also a thick-
14 er dolomite section.

15 For example, the well in Section 17 has
16 127 feet of dolomite and has produced approxiamtely 24-bil-
17 lion cubic feet of gas.

18 The well in 19 has -- excuse me, has 111
19 feet of dolomite. It's produced approximately 24-bilion
20 feet of gas, et cetera.

21 Q One more question with respect to this
22 exhibit. Is the fault line shown here exactly the same as
23 was presented by Marathon in the earlier case we disucssed
24 here?

25 A Yes, it is.

Q Mr. Neff, have you formed an opinion as
to how much acreage in Section 18 is capable of contributing
to production?

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A Yes, I have.

Q And what is your conclusion?

A 490 acres.

Q And how did you reach this conclusion?

A This is a short section, Section 18. It's got approximately 574 acres. I think that everything on the upthrown side of the fault could be productive excluding the northwest corner, which goes between a fault and the limit of 2 percent porosity.

Q Are you familiar with the manner in which an allowable factor for gas proration purposes was determined by the Oil Conservation Division in Case Number 6845?

A Yes, I am.

Q And does your manner of calculation in this case utilize the same approach as was used by the Division in connection with its Order No. R-6310?

A Yes, it does.

Q Was Exhibit Two, or at least parts of it, prepared by you or under your supervision?

A Yes.

Q As to the remainder of the exhibit which was not prepared by you, have you studied the matters represented and is it your expert opinion that they are accurately portrayed in this exhibit?

A Yes.

Q Do you have anything further to offer in this case?

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A No.

MR. LOPEZ: That concludes this witness' presentation.

MR. RAMEY: Are there any other questions of Mr. Neff?

MR. CARR: Yes, Mr. Ramey.

MR. RAMEY: Mr. Carr.

CROSS EXAMINATION

BY MR. CARR:

Q Mr. Neff, you indicated this was an exhibit that was presented by Marathon in the prior case.

A That's correct.

Q Did that exhibit contain this 2 percent porosity line that is on this exhibit?

A No, it didn't.

Q You placed that on it?

A I did that, correct.

Q And it's the result of your own work?

A Right.

Q In placing that line what control points did you use?

A I used the well in Section 7. I had a well log on that. I had one in -- both of them in 8. I had a well log in Section 18, 17, and I didn't have one in 19 or 20.

Q When you talk about this 2 percent poro-

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2 sity, is that in the zone where you find the dolomite or is
3 that in the limestone itself?

4 A This 2 percent porosity cutoff is a poro-
5 sity cutoff that I think could be productive, anything 2
6 percent or greater.

7 Q Is there dolomite present in that area?

8 A In --

9 Q Say in the south half of Section 7 and
10 the -- everything north and west of your limestone/dolo-
11 mite line in 18?

12 A No, sir.

13 Q So you're talking about porosity in the
14 limestone itself?

15 A Correct.

16 Q In your opinion is this limestone frac-
17 tured?

18 A Yes, it could be.

19 Q Is it your opinion that everything that's
20 south of this 2 percent line is capable of contributing pro-
21 duction through the well?

22 A Yes, sir.

23 Q Did you participate in any way in select-
24 ing a location for the proposed Enfield well?

25 A Yes, I did. I-- yes.

Q If the entire section is capable of con-
tributing production, why do you locate the well in the ex-
treme southeast part instead of somewhere more toward the

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center of Section 18?

A For the reason of encountering dolomite.

Q So the dolomite is the -- really the key factor in making a good well in this area?

A Yes, sir.

Q How many feet of dolomite were there in the well in Section 17? I think you testified to that but I didn't get it.

A 127 feet.

Q How many feet of dolomite were there in Mr. Enfield's well in 18?

A Zero.

Q It was completed in the limestone?

A Yes, sir.

Q If this reservoir is fractured, couldn't it be possible that those fractures were permitting thieving from the dolomite and not actually, productive from the limestone?

A Could be.

Q Now, on the downthrown side of the fault which is to the west of the fault, is it your testimony that that acreage would not contribute production to a well at the proposed location?

A Yes, that's correct.

Q So we can disregard everything west of the fault and also west of the porosity line as it intersects that section?

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A That's correct.

MR. CARR: I have no further questions.

MR. RAMEY: Any other questions of Mr. Neff?

REDIRECT EXAMINATION

BY MR. LOPEZ:

Q Mr. Neff, in calculating your acreage factor, did you come up with the calculation as to what you would recommend as an allowable factor with respect to production from this well?

A I think a 23 percent. If you take 490 over 640 acres you come up with 76 percent, which will impose about 23.4 percent penalty.

RECROSS EXAMINATION

BY MR. CARR:

Q I'd like to follow up on that. What percent penalty did you come up with?

A 23 percent, 23.4.

Q This is based on the number of productive acres in that section that could contribute?

A 490 over 640 comes out 76.6 percent.

Q This doesn't take into effect how many of those acres have, in fact, dolomite?

A No.

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2 Q Or the quality of the acreage as opposed
3 to acreage to the west of there with greater dolomite?

4 A No.

5 Q I mean to the east where there's greater
6 dolomite?

7 A No.

8 Q It also doesn't take into effect the re-
9 serves that may have been drained from the tract by existing
10 wells, the existing well?

11 A No, sir.

12 MR. CARR: I have nothing fur-
13 ther.

14 MR. RAMEY: Any other questions
15 of Mr. Neff? He may be excused.

16 JAMES F. O'BRIANT,
17 being called as a witness and being duly sworn upon his
18 oath, testified as follows, to-wit:

19 DIRECT EXAMINATION

20 BY MR. LOPEZ:

21 A Would you please state your name,
22 address, and occupation?

23 A James F. O'Briant. I'm from Midland,
24 Texas and I'm an independent petroleum consultant engineer.

25 Q And what is your relationship with the
applicant?

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A Consultant.

Q Have you previously testified before the Division or Commission and had your qualifications as a petroleum engineer accepted as a matter of record?

A Yes, sir.

MR. LOPEZ: We tender Mr. O'Briant as an expert petroleum engineer.

MR. RAMEY: Bryant?

A O'-B-R-I-A-N-T.

MR. RAMEY: He is qualified.

Q Are you familiar with the application in this case?

A Yes, sir.

Q I now ask you to refer to what's been marked Exhibit Number Three and ask you to identify it.

A Exhibit Number Three is a cement evaluation log I ran in Mr. Enfield's Bonnell Federal No. 1 Well after setting 4-1/2 inch casing and prior to beginning completion operations.

It -- you'll notice a number of things marked thereon. The pipe information was placed thereon by Western Company. It's their evaluation of the strength and condition of the cement in various intervals.

The shaded areas that have sort of a pink color represent intervals below the bridge plug in which completion attempts were made. By that I mean it was perforated, acidized, swab tested, and for various reasons

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2 water production, communications, no productions were found
3 to be noncommercial.

4 A bridge plug, retrievable bridge plug
5 was set at 7157 feet KB. The interval 7126 to 7134 was per-
6 forated and acidized four times and resulted in an absolute
7 open flow of a little over 2-million cubic feet a day in
late 1965.

8 Q Okay, I'd now ask you to refer to what's
9 been marked Exhibit Number Four and ask you to describe it.

10 A Exhibit Number Four is a copy of the
11 daily drilling reports taken from Mr. Enfield's well file.
12 It provides the basis for my knowledge of the completion at-
13 tempt and will also provide you with substantiation of what
I've told you.

14 Q So it can just be read in connection with
15 Exhibit Number Three.

16 A That is correct, sir.

17 Q You heard Mr. Enfield testify as to the
18 fact that re-entry of this well would probably not be econo-
19 mically feasible and that the subject well would be the re-
20 commended approach. Do you agree with that?

21 A Yes, sir, I do.

22 Q I'd now ask you to refer to what's been
23 marked Exhibit Number Five and ask you to identify it.

24 A Exhibit Number Five is a copy of the C-
25 125 form submitted to the OCD for the years 1980, '82, and
'83.

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2 This exhibit shows the common shut-in
3 pressure exhibited between the three wells that Mr. Enfield
4 operates in the Indian Basin Gas Unit.

5 Q And essentially what is it that you're
6 trying to show by this exhibit, that the pressures are
7 pretty much identical and therefore --

8 A The pressures are nearly identical and
9 indicates that the Bonnell Federal No. 1 Well is in direct
10 communication with the major portion of the field to the
11 east.

12 Q Okay. I'd now ask you to refer to what's
13 been marked Exhibit Number Six and ask you to discuss it.

14 A Exhibit Number Six is a gas well reserve
15 estimate that I prepared in March, 1979 for Mr. Enfield.

16 Reserves were determined by plotting the
17 shut-in wellhead pressure versus cumulative gas pressure.
18 versus cumulative gas production and extrapolating to an ul-
19 timate wellhead pressure of 500 psig.

20 The Bonnell Federal Gas Unit No. 1's
21 curve extrapolates out to approximately 8 Bcf ultimate re-
22 coverable gas.

23 Q Has anything occurred since the time you
24 made these calculations back in March of 1979 to change your
25 opinion as to the estimated remaining reserves to be re-
covered out of this tract?

A No, sir.

Q You heard the testimony of Marathon wit-

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2 nesses in the hearing before the Division Examiner in this
3 case, where it was suggested that there was dolomite under-
4 lying the existing well. Although I know our testimony is
5 not in agreement with that testimony, if that were in fact
6 the case, what would that do to your estimate of reserves?

7 A The current estimate that you see before
8 you marked Exhibit Number Six strictly deals with the
9 interval above the bridge plug that was perforated, treated,
and tested.

10 If dolomite were present and had proper
11 saturation below the bridge plug and could be penetrated by
12 a new well, it would substantially add to the reserves
13 available to Mr. Enfield.

14 Q Is it your opinion that the granting of
15 this application is in the interest of the prevention of
16 waste and protection of correlative rights?

17 A Yes, sir.

18 Q Were Exhibits Three through Six prepared
19 by you or under your supervision?

20 A Yes, sir.

21 MR. LOPEZ: I'd like to offer
at this time Applicant's Exhibits One through Six.

22 MR. RAMEY: Applicant's Exhi-
23 bits One through Six will be admitted.

24 Q Is there anything further you'd like to
add?

25 A Not at this point.

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2 MR. LOPEZ: That concludes our
3 presentation.

4 MR. RAMEY: Any questions of
5 Mr. O'Briant?

6 MR. CARR: I have no questions.

7 A Am I excused?

8 MR. RAMEY: You are excused,
9 Mr. O'Briant.

10 A Okay.

11 MR. RAMEY: Mr. Carr, any wit-
12 nesses?

13 MR. CARR: At this time I'd
14 call Russell Holmberg.

15 RUSSELL A. HOLMBERG,
16 being called as a witness and being duly sworn upon his
17 oath, testified as follows, to-wit:

18 DIRECT EXAMINATION

19 BY MR. CARR:

20 Q Will you state your full name and place
21 of residence?

22 A Russell A. Holmberg, Midland, Texas.

23 Q By whom are you employed and in what cap-
24 acity?

25 A Employed by Marathon Oil Company as the
District Development Geologist.

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Q Have you previously testified before this Commission or one of its Examiners and had your credentials as a geologist accepted --

A Yes, I have.

Q -- and made a matter of record?

A Yes, I have.

Q Does your area of responsibility with Marathon include southeast New Mexico?

A Yes, it does.

Q Are you familiar with the application filed in this case by Mr. Enfield?

A Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. RAMEY: Yes, they are, Mr. Carr.

Q Mr. Holmberg, will you briefly state what Marathon Oil Company seeks in this case?

A We're seeking denial of this application of Mr. Enfield's, an imposition of a penalty on the production from the proposed well.

Q Will you please identify what has been marked for identification as Marathon Exhibit Number One?

A Exhibit Number One is a structure map on the top of the Pennsylvanian limestone, or the, in this instance, the entire map consists of the Pennsylvanian Reef.

Q Now what do these contours show or how

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important are they in determining whether or not you have a good well?

A The contours show the east-dipping rock rate of about two degrees, so that would be 200 foot per mile. That's really not all that important. What is more important than that is the limestone dolomite zero line and also the fault which is on the west side of the map.

Q Okay, and what does this zero line show?

A The zero line shows that part of the Pennsylvanian Reef that has been dolomitized and to the east of that line, the limestone line that has zero dolomite.

Q How was this line determined and placed on this map?

A This line is determined by sample studies, sample logs, and also by the productive history in two of the wells, the well in Section 18 and also the well in Section 19.

Q Has this line been moved in any way since the Examiner Hearing on this matter?

A Yes, it has.

Q Would you explain the reason for that?

A Yes. I moved it closer to the well in Section 19 because I was more -- it was represented to me how you could possibly get some -- some production out of that limestone.

Q So the line was moved due to the production data on the well in Section 19.

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A That's right.

Q Did you prepare this exhibit?

A This exhibit was prepared in part by a Marathon geologist and myself.

Q And have you reviewed it and is it accurate to the best of your knowledge?

A Yes, it is.

Q I'd like to direct your attention to Section 18 and ask you just to state again who operates the well in that section?

A Mr. Enfield.

Q And do you concur with the statement that Marathon owns no interest in that section?

A That's right.

Q What is the location of the existing well on that unit?

A That's 1650 from the east line and 1650 from the south line.

Q Is that a standard location?

A Yes, it is.

Q And have you reviewed the data on this particular well?

A Yes.

Q What have you studied?

A Well, we found that there is about 15 foot of dolomite in this well and has been previously testified to and we're in agreement with that, that it is produc-

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2 ing from the lime above the dolomite.

3 What is of interest to us is the fact
4 that there is dolomite in that well and therefore it shows
5 the immediate adjacency of the dolomite reservoir. So the
6 dolomite in this particular well may not be ineffective per
7 se, but it's effective in that it shows the adjacency of the
8 dolomite reservoir.

8 Q Now are all those shown on this plat
9 Pennsylvanian wells?

10 A Yes, they are.

11 Q Would you refer to the wells in Sections
12 7 and 8? Are you familiar with these wells?

13 A Yes.

14 Q Have they ever produced?

15 A The well in M-8, Section 8, it had a DST
16 of something like 206 foot of gas cut mud and it was plugged
17 and abandoned. Mr. Enfield has reported that the well at J-
18 8 tested small amounts of gas. Our scout sheets show that
19 it tested 27,000 and that when they tried to complete it, it
20 had a rate of 3 or 4,000. That's on our scout sheets and
21 that's the best I can say about that.

22 In Section 7, J-7, that well wasn't test-
23 ed, according to our scout sheets, in the Pennsylvanian.

24 Q Will you now refer to the well in Section
25 19? Who operates this well?

 A El Paso.

 Q And does Marathon own interest in that

1
2 section?

3 A We show 27.8 percent.

4 Q Mr. Holmberg, would you contrast the
5 wells that you have just identified that are close to the
6 dolomite limestone cutoff and compare these to the wells
7 south and east where there are dolomites present?

8 A Yes. The well in Section 17 has a cumu-
9 lative production of about 24.4 billion cubic feet. The
10 well in Section 20 has a cum of about 24 billion cubic feet.

11 Mr. Enfield's well in Section 18 has pro-
12 duced something like 4.75, something noticeably smaller than
13 in 17 and 20.

14 And the well in Section 19 has a cum of
15 about 3.8 in my records.

16 Q What does this generally show you, Mr.
17 Holmberg?

18 A I believe that the -- that the dolomite
19 is the producing reservoir and that Mr. Enfield's well in
20 Section 18 and the well that's in Section 19, because of
21 their adjacency to the dolomite reservoir, are in fact
22 thieving.

23 Q Will you now refer to Section 20 and
24 state for the record what Marathon's ownership interest is
25 in that section?

A That's 43.8 percent.

Q Now what rules govern the development of
this pool?

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A Special pool rules, Indian Basin Upper Pennsylvanian Gas Pool.

Q What is a standard spacing unit in this pool?

A 640 acres.

Q Are there well location requirements under those rules?

A 1650 from the outside boundary.

Q And Mr. Enfield's location is?

A 330 foot from the east line and 1200 foot from the south line.

Q Is this pool prorated?

A Yes, by OCD Order R-1670-M.

Q How much acreage must be dedicated to a well for it to have a full acreage factor in the allowable formula?

A 640 acres.

Q Do you concur with Mr. Enfield's total number of acres in Section 18?

A We have 576 acres by our planimentering in Section 18.

Q In your opinion would this acreage be productive of gas?

A The area east of the fault is 420 acres. That is the maximum that possibly could be dedicated to a well in Section 18, but because I really believe that the dolomite is the effective reservoir, on my map it would ap-

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pear that that would be about 160 acres, and therefore --

Q That would be the acreage south and east of the dolomite limestone cutoff.

A That's right.

Q And do you feel all of that acreage would be contributing gas?

A All of the 160 acres in Section 18 is part of the effective reservoir, so therefore would have to be contributing gas.

Q And is that the acreage that would have been contributing gas to the well that is currently drilled and completed by Mr. Enfield in Section 18?

A I believe that's right.

Q How much productive acreage is there in Section 18 that you think could possibly contribute to the proposed well?

A The maximum, therefore, would be 160 acres.

Q How many acres would the proposed well, based on your review?

A Well, it would certainly be something less than that.

Q Where do you think most of the gas that would be produced from this well, where do you believe it would actually come from?

A Well, it would come from the southeast and the east.

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2 Q Mr. Holmberg, are you prepared to make a
3 recommendation to the Commission as to the penalty that
4 should be imposed on the production from this well?

5 A Yes, 75 percent.

6 Q Would you explain how this figure is de-
7 rived?

8 A Yes. If you look at the cums in Section
9 17 and Section 20, as Mr. Enfield has pointed out, they pro-
10 duced in the neighborhood of 24 Bcf.

11 His well has produced 4.75 or 5 Bcf.

12 We believe he's draining 160 acres and
13 therefore that would be 25 percent of 640 acres, and that's
14 how we arrived at that 25 percent.

15 Also, the pressures would be approximate-
16 ly the same between Section 17 and 20 and the --

17 Q Mr. Holmberg, in your opinion will grant-
18 ing the in Enfield application impair Marathon's correlative
19 rights?

20 A Yes, unless it's limited to 25 percent
21 allowable.

22 Q In your opinion will granting this appli-
23 cation cause waste?

24 A Yes, unnecessary well economics. The
25 economics would be unnecessary.

Q Was Exhibit Number One prepared by you or
can you testify as to its accuracy?

A Yes, I can do -- I can testify to its ac-

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2 curacy.

3 MR. CARR: At this time, Mr.
4 Ramey, we would offer into evidence Marathon Oil
5 Corporation's Exhibit -- Marathon Oil Company Exhibit One.

6 MR. RAMEY: Marathon Exhibit
7 Number One will be admitted.

8 MR. CARR: And that concludes
9 my direct of Mr. Holmberg.

10 MR. RAMEY: Any questions of
11 Mr. Holmberg?

12 MR. LOPEZ: No, Mr. Chairman.

13 MR. RAMEY: Anything further,
14 Mr. Carr?

15 MR. CARR: Nothing further. I
16 have a closing statement.

17 MR. RAMEY: You may proceed,
18 then, with your statement, Mr. Carr.

19 MR. CARR: Mr. Ramey, Mr.
20 Enfield appears before you today seeking to develop Section
21 18 with a second well.

22 The first well on this spacing
23 or proration unit was drilled at the possible closest stand-
24 ard location out of the southeast corner, 1650 from the
25 south and east lines.

Marathon has a substantial pro-
perty interest south and southeast of the proposed well.

The original well was drilled

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in 1965. It has produced substantial reserves from Section 18.

Mr. Enfield now proposes to place a second well between that well and the southeast corner of that section. In fact he's moving towards Marathon's interest.

I think the evidence today clearly shows that we have a small section, somewhere in the neighborhood of 576 acres. It's cut by a fault. The evidence shows that there are only 420 acres on the east side of that fault that could possibly contribute gas.

The evidence also shows that this section is cut by a limestone dolomite limit and that the acreage available to the well, therefore, is reduced again to something in the neighborhood of 160 acres.

Everyone here testified that what is needed to make a commercial producer, what you need to produce a well is dolomite. We submit there's no interpretation in the evidence that can be made except for the fact that there are only approximately 160 acres that could contribute.

But let's look at that 160 acres. It's produced since 1965. The well that is in a position to drain that acreage is at a point where it needs to be abandoned.

We submit that even though there are 160 acres there that could contribute, there's

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little gas in those 160 acres that can or would be produced.

Therefore, the proposed well has got to drain reserves from acreage to the south, acreage to the east, acreage in which we have an interest.

No one here today has suggested that the traditional penalty formula where you have radius of drainage would work in this case. We believe that the only possible way to evaluate what the appropriate penalty can be is to determine based on the record here what gas is available to that well.

We think we've made a reasonable recommendation. We think if you look at the number of acres that actually have -- are available that have not been produced, are not being produced by this well on Mr. Enfield's property, you'll find substantially less than a quarter allowable should be assigned. We're agreeable to a 75 percent penalty or a 25 percent allowable factor.

If the well isn't penalized to that extent we submit that our correlative rights are impaired, in fact authorizing waste through unnecessary wells.

We therefore ask you to either deny the application or to grant it imposing a penalty of 75 percent of the well's production.

MR. RAMEY: Thank you, Mr. Carr.

Mr. Holmberg, did I ever excuse you? You may be excused.

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MR. HOLMBERG: I thank you.

MR. RAMEY: Do you have a statement, Mr. Lopez?

MR. LOPEZ: Yes, Mr. Chairman.

I believe the testimony here today has shown that Mr. Enfield's existing well in Section 18 is no longer commercially producing gas, yet that there are sufficient reserves underlying the tract in Section 18, remain to be recovered, that justify the drilling of a substitute well for that well.

The evidence has further also shown that Mr. Enfield and his joint ventures control at least 75 percent of all the diagonal or direct offset working interest ownership and that Marathon has absolutely no interest in Section 17 offsetting the proposed well.

There is a little history behind this case and why we are here today. Initially Mr. Enfield proposed to locate a well at 660/660 -- that was 660/330 from the south and east lines of Section 18, and the Division Examiner entered an order in that case not utilizing the same formula that was used in determining the allowable for the Marathon well in Section 30, which is the evidence we've presented here today with respect to productive acres, but rather using the mathematical formula as to determining the location of wells, vis-a-vis, its unorthodoxness and calculating a formula. That formula ended up with a 38 percent allowable.

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2 That also included a penalty
3 for the and deducted the acreage -- land west of the fault.

4 It is our opinion that that
5 simplistic application of a mathematical formula was not the
6 correct way to go in light of previous precedents estab-
7 lished with respect to Marathon's application in Section 30,
8 and further, that it went one step too far and requiring a
9 double dip, namely, that if you're going to use mathematical
10 formulas to you have to go on the presumption that all sec-
11 tions are fully capable of producing, or otherwise the math-
12 ematical formula will fall of its own logic.

13 If, and in this connection, and
14 expecting perhaps similar treatment, Mr. Enfield moves his
15 well considerably to the north and away from any interest
16 that Marathon may have, now the well is at 1200 feet from
17 the south line, if you used the simplistic mathematical for-
18 mula as to determining the penalty application and not de-
19 ducting the shortness of the acreage of the section, the re-
20 sult would be an allowable in the range of 58 to 60 percent.

21 Naturally our position is that
22 the better method of determining what is fair and proper to
23 the parties is to consider the amount of productive acreage
24 that remains to be drained and in this connection we have
25 shown that the acreage lying to the east of the fault, as
well as to the south of the 2 percent porosity, results in
productive acreage of 490 acres, or taking into considera-
tion the short section, an allowable factor of 76.4 percent,

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2 or a 23.6 percent penalty, and that is clearly what we would
3 recommend.

4 The suggestion that it's impro
5 per to consider any acreage that does not contain dolomite
6 just simply misses the mark. The evidence here today is un
7 disputed that the existing well in Section 18 has been pro
8 ducing since 1965 only in the limestone and the discussion
9 with respect to the wells located in Section 8 also indicate
10 that those wells were only completed and tested in the lime
11 stone and no dolomite, and yet perhaps on your today's pric-
12 ing scheme and all they would be considered commercial
13 wells.

14 Therefore it is clear that near
15 the limestone dolomite facies, especially where there's
16 fracturing, the limestone does contain hydrocarbons that are
17 capable of commercial production and therefore to eliminate
18 them from the calculation is not fair.

19 We believe that the evidence
20 also showed that all the wells in the Indian Basin Pool are
21 in direct communication with each other whether they've been
22 completed in the limestone or the dolomite and therefore, if
23 all these wells are in communication with each other, if Mr.
24 Enfield is not allowed to produce his remaining reserves un-
25 der Section 18 he is clearly going to be drained by the off-
set wells in Section 17 and 20, as well as 19.

 We believe that it is in the
interest of conservation, prevention of waste and protection

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2 of correlative rights that the application at this new loca-
3 tion be granted and that an allowable factor of no less than
4 76.4 percent be established for the production from that
5 well.

6 MR. RAMEY: Thank you, Mr.
7 Lopez.

8 Does anyone have anything fur-
9 ther to add in Case 8259?

10 If not, we'll take the case un-
11 der advisement and the hearing is adjourned.

12 (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
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