

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

6  
7  
8 14 September 1988

9 EXAMINER HEARING

10 IN THE MATTER OF:

11 Application of Robert N. Enfield for CASE 9481  
12 an unorthodox gas well location, Chaves County, New Mexico,  
13 and  
14 Application of Robert N. Enfield for 9482  
15 an unorthodox gas well location, Chaves  
16 County, New Mexico.

17 BEFORE: David R. Catanach, Examiner

18 TRANSCRIPT OF HEARING

19 A P P E A R A N C E S

20 For the Division: Robert G. Stovall  
21 Attorney at Law  
22 Legal Counsel to the Division  
State Land Office Bldg.  
Santa Fe, New Mexico

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

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I N D E X

EDSEL NEFF

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E X H I B I T S

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Enfield Exhibit Three,	9

1 MR. CATANACH: Call next Case  
2 9481.

3 MR. STOVALL: Application of  
4 Robert N. Enfield for an unorthodox gas well location,  
5 Chaves County, New Mexico.

6 MR. CATANACH: Are there ap-  
7 pearances in this case?

8 MR. LOPEZ: Yes, Mr. Examiner,  
9 if it please the Division, my name is Owen Lopez with the  
10 Hinkle Law Firm in Santa Fe, New Mexico, appearing on  
11 behalf of the Applicant, Robert N. Enfield.

12 I also would like to suggest  
13 or move that we consolidate this case with Case 9482 and  
14 hear them together.

15 MR. CATANACH: All right.  
16 We'll call Case 9482 at this time.

17 MR. STOVALL: Application of  
18 Robert N. Enfield for an unorthodox gas well location,  
19 Chaves County, New Mexico.

20 MR. CATANACH: Are there any  
21 other appearances in either one of these cases?

22 Any witnesses here, Mr. Lopez?

23 MR. LOPEZ: I just have one  
24 witness.

25 MR. CATANACH: Okay, will the

1 witness please stand and be sworn in?

2

3

(Witness sworn.)

4

5

EDSEL NEFF,

6

being called as a witness and being duly sworn upon his

7

oath, testified as follows, to-wit:

8

9

DIRECT EXAMINATION

10 BY MR. LOPEZ:

11

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

13

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

15

Q By whom are you employed and in what  
16 capacity?

17

A I'm employed by LDN Associates and I'm  
18 an exploration geologist.

19

Q Are you familiar with the application of  
20 Robert N. Enfield in Cases 9481 and 9482?

21

A Yes, I am.

22

Q And have you been employed by Mr. En-  
23 field to represent his interest in these cases?

24

A Yes.

25

Q Have you previously testified before the

1 Commission and had your qualifications as a geologist ac-  
2 cepted as a matter of record?

3 A Yes, I have.

4 MR. LOPEZ: Do you consider  
5 the witness qualified?

6 MR. CATANACH: Yes, sir. I'm  
7 sorry, I didn't get your first name?

8 A First name is Edsel, E-D-S-E-L. My last  
9 name is Neff, M-E-F-F.

10 MR. CATANACH: Thank you.

11 Q And what is it that Mr. Enfield seeks in  
12 these two cases?

13 A Mr. Enfield is seeking unorthodox loca-  
14 tions for two unorthodox gas well location in Township 7  
15 South, Range 31 East in Chaves County, the first one being  
16 in Section 29 and the second one being in Section 20.

17 Section 29, the location is 2310 from  
18 the south and 1650 from the west; and in Section 20 it's  
19 330 from the south, 660 from the west.

20 Q And are these locations reflected on Ex-  
21 hibit Number One, which I'll ask you to refer to?

22 A Yes, they are.

23 Q And what else does Exhibit Number One  
24 show?

25 A It also shows the McCombs gas well in

1 the northwest quarter of Section 29, which is the Enfield  
2 discovery, No. 1 McCombs, which is -- has recently been  
3 designated as the Lone Wolf Devonian Pool.

4 Q And the area colored in yellow, what  
5 does that reflect?

6 A This is Bob Enfield's acreage position  
7 on this land map.

8 Q Okay, and in what respects are these  
9 wells unorthodox?

10 A Well, if you go to Order No. R-8677,  
11 some special rules were set -- rules and regulations were  
12 set forth for this Lone Wolf Devonian. If you'll go to  
13 Rule 4, Bob's locations, both locations, comply with all of  
14 Rule 4 except for the 510 feet to the outer boundary of the  
15 proration unit. These two locations, unorthodox locations,  
16 are 330 feet from the outer boundary of the proration unit.

17 Q But in all other respects they conform  
18 to the rules?

19 A They do.

20 Q They're more than 1520 feet from each  
21 other.

22 A That's correct.

23 Q I'd now ask you to refer to what's been  
24 marked as Exhibit Number Two and ask you to explain it.

25 A Exhibit Number Two is a structure map on

1 top of the Devonian of Section 20 and 29, basically, of  
2 Township 7, Range 31 East. It's contoured on top of the  
3 Devonian. The contour interval is 100 feet and the scale  
4 is 1000 feet. The seismic lines used in the interpretation  
5 are colored in green. The blue (unclear) is a Devonian gas  
6 discovery, No. 1 McCombs, which has been set forth as the  
7 Lone Wolf Devonian Pool.

8 The lavender colors on the bottom are  
9 San Andres oil production and the two small circles that  
10 you see there are the proposed unorthodox gas well loca-  
11 tions.

12 If you'll go to the small scale log on  
13 the right of the structure map, this is a compensated  
14 neutron litho density porosity log and if you'll look, we  
15 ran three tests across this Devonian interval.

16 Number one was a straddle packer DST  
17 from 8470 to 8560. We had gas to surface at 125,000 cubic  
18 feet of gas per day; recovered 217 feet of gas-cut mud.  
19 We had initial shut-in at 2924 in two hours and a final  
20 shut-in of 3145 in nine hours.

21 We then went downhole to this other  
22 porosity zone from 8639 to 97, acidized with 5000 gallons,  
23 and swabbed water with no shows at an estimated rate of  
24 2000 barrels of water per day. So we went up hole, set a  
25 bridge plug, retrievable bridge plug, at 8590 and perfor-

1 ated the original DST interval from 8477 to 8551, acidized  
2 3600 gallons, and it potentialed at 1.8-million cubic feet  
3 of gas per day with a GOR of 8.9 MCF per barrel. It's  
4 currently making 500 -- approximately 500,000 cubic feet of  
5 gas per day with 30 -- plus 30 barrels of oil per day.

6           If you'll go back to the perforations on  
7 No. 1, 8639 to 97, most Devonian fields as a whole in New  
8 Mexico have a gas/oil or water/oil contact. The gas/water  
9 contact for this well at 8639, which is the subsea of about  
10 approximately 4320, this -- and this is a continuous reser-  
11 voir, and what we're trying to do with these unorthodox  
12 locations, basically, is stay structurally as high as we  
13 can and stay above the gas/water contact.

14           That's not to say that beneath the num-  
15 ber one porosity zone, at approximately 8569 on the depth  
16 log, which is a -4350, that's not to say that the oil --  
17 that the gas -- that the water contact could be that high.  
18 I mean we don't know if it could be, so it could be from  
19 8659 to 8639, so basically what we're trying to create with  
20 these offset locations, I mean unorthodox locations, is  
21 stay structurally as high as we can and stay out of the --  
22 above the gas/water contact.

23           And this Devonian, if you'll go back to  
24 this Devonian map, it's a faulted anticline or basically  
25 it's a horst. We have faults on all four sides.

1 Q Okay. I'd now ask you to refer to  
2 what's been marked as Exhibit Three and ask you to explain  
3 what that is.

4 A Exhibit Number Three is -- this is  
5 waivers or consent from the offset operators to these un-  
6 orthodox locations. You can see there was one -- offset  
7 operators are Flag-Redfern Oil Company, BHP Petroleum,  
8 HEYCO, NWJ Producing Company, and Western Reserves Oil  
9 Company. So these five waivers are all the offset opera-  
10 tors to the acreage.

11 Q And they represent all the offset oper-  
12 ators, do they not?

13 A That's correct.

14 Q Were Exhibits One through Three prepared  
15 by you or under your supervision?

16 A Yes, they were.

17 Q In your opinion will the granting of  
18 this application be in the interest of prevention of waste  
19 and protection of correlative rights?

20 A Yes.

21 MR. LOPEZ: At this time I'd  
22 like to offer Enfield's Exhibits One through Three.

23 MR. CATANACH: Exhibits One  
24 through Three will be admitted into evidence in this case.

25 MR. LOPEZ: And that concludes

1 our testimony, Mr. Examiner.

2 I would like to mention that  
3 we are in need, if possible, of an expedited order because  
4 some leases are -- we've extended the leases once and our  
5 leases are running out again, and Mr. Enfield hopes to  
6 start work as soon as possible.

7 Another thing I might mention  
8 is the well in the southwest quarter of 29 has been desig-  
9 nated as the Sabine No. 1 and the well in the southwest of  
10 20 as the McCombs No. 2.

11 Q Do you have anything else?

12 A Sun who has also plotted with this, does  
13 agree with the interpretations and --

14 Q And supports the applications?

15 A -- supports everything.

16

17

#### CROSS EXAMINATION

18 BY MR. CATANACH:

19 Q Now tell me again where you think the  
20 gas/water contact is in the McCombs No. 1?

21 A Well, if this is a continuous reservoir,  
22 we know we got -- we know we got water at 8639, which is at  
23 4320 subsea, so we've know we've got water there. So if  
24 this is a continuous reservoir and this is -- the water is  
25 in relation a gas/water contact in this reservoir, then it

1 could be at 3320 or possibly it's not to say that we might  
2 have porosity up-structure, and if we do have porosity up  
3 structure, there's a possibility that it could go, it could  
4 go as high as 8569. You just don't know. I mean the base  
5 of this first porosity zone that we're producing from could  
6 be right at the edge of the gas/water contact. It's not to  
7 say that just because this -- this well (not understood)  
8 here but the next location might be, if porosity was devel-  
9 oped, you could possibly have water up to 4250 subsea. So,  
10 hopefully not.

11 Q Okay, so you're just trying to stay  
12 above the -- your gas/water contact.

13 A Right.

14 Q Did you mostly use seismic to plot your  
15 structure?

16 A That's correct.

17 Q Have you used seismic before in similar  
18 situations?

19 A Yes.

20 Q How successful?

21 A Pretty successful. We drilled the Car-  
22 son. It was (unclear) structure. It's down south in 9,31,  
23 Carson Federal No. 1. It was -- the structure was there,  
24 it was just wet.

25 Q But you do have a basis on which to feel

1 that you can rely on the seismic interpretation.

2 A Right.

3 MR. CATANACH: I have no  
4 further questions of this witness. He may be excused.

5 Is there anything further in  
6 Case 9481 or 9482?

7 If not, they will be taken  
8 under advisement.

9

10 (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 (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. 94P1, 94P2,  
heard by me on September 14 1988.  
David R. Catanzaro, Examiner  
Oil Conservation Division