

## 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:	)	CASE NOS. 11,082
	)	11,083
APPLICATION OF PETROLEUM	)	11,084
DEVELOPMENT CORPORATION	)	(Consolidated)
	)	

REPORTER'S TRANSCRIPT OF PROCEEDINGSEXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

September 15th, 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, September 15th, 1994, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Deborah O'Bine, RPR, Certified Court Reporter No. 63, for the State of New Mexico.

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## I N D E X

September 15th, 1994  
 Examiner Hearing  
 CASE NOS. 11,082, 11,083 and 11,084 (Consolidated)

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## A P P E A R A N C E S

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By: ANNIE-LAURIE COOGAN

\* \* \*

1 EXAMINER STOGNER: This hearing will come to  
2 order for Docket Number 26-94.

3 I'm Michael Stogner, appointed hearing officer  
4 for today's cases.

5 Please note today's date, September 15th, 1994.

6 And at this time I'll call Case Number 11,082.

7 MR. CARROLL: Application of Petroleum  
8 Development Corporation for a high-angle/horizontal  
9 directional drilling pilot project and for special  
10 operating rules therefor, Chavez County, New Mexico.

11 EXAMINER STOGNER: Call for appearances.

12 MS. COOGAN: Mr. Hearing Officer, I'm Annie-  
13 Laurie Coogan from the Kegel law firm in Espanola, and I  
14 represent Petco, the Applicant.

15 EXAMINER STOGNER: Are there any other  
16 appearances in this matter?

17 Ms. Coogan, do you have any witnesses to be  
18 sworn?

19 MS. COOGAN: Yes, Mr. Johnson.

20 (Thereupon, the witness was sworn.)

21 MS. COOGAN: I'd just like to point out to the  
22 Hearing Officer that the Applications for 11,082, 11,083  
23 and 11,084 are very similar.

24 11,082 calls for two wells, -83 for three wells,  
25 and -84 for five wells.

1           The -- It's a horizontal directional drilling  
2 pilot project, similar to one that was applied for here in  
3 1993 and for which orders were entered on.

4           The orders entered in a project very similar to  
5 this were R-9969, R-9970, R-9971 and R-9972.

6           Would you like exhibits entered at this point,  
7 Mr. Hearing Officer?

8           EXAMINER STOGNER: Yes, or at least given to us  
9 and then we'll enter them into the record at the conclusion  
10 of the examination, cross-examination. Thank you.

11           Ms. Coogan, you mentioned that Cases 11,083 and  
12 11,084 were very similar in nature. Do you wish to  
13 consolidate those cases for ease in testimony?

14           MS. COOGAN: Yes, we would like to.

15           EXAMINER STOGNER: Okay. At this time, then,  
16 I'll call Case 11,083 and 11,084.

17           MS. COOGAN: Examiner, we have given you exhibits  
18 that also cover both of those cases.

19           Exhibit Number 1 -- We have an Exhibit Number 1  
20 for each case. If that is confusing to the Commission, we  
21 can put 1, 2 and 3 now that they're consolidated.

22           EXAMINER STOGNER: No, that will be fine. The  
23 case number is on there, and they'll go in each individual  
24 packet.

25           MS. COOGAN: The top exhibit is the map and

1 schematic, and that applies to all three cases.

2 (Off the record)

3 MS. COOGAN: Okay, each one is listed as Exhibit  
4 1.

5 (Off the record)

6 MS. COOGAN: As I stated, the Applicant seeks  
7 authority to institute a short-radius/directional drilling  
8 pilot project in the areas designated in 11,082, 11,083 and  
9 11,084.

10 The only difference between this Application and  
11 the one in 1993 is the radius they're requesting, and there  
12 are a few other difference.

13 At this time, I'd like to call Mr. Jim Johnson.

14 (Off the record)

15 JAMES C. JOHNSON,

16 the witness herein, after having been first duly sworn upon  
17 his oath, was examined and testified as follows:

18 DIRECT EXAMINATION

19 BY MS. COOGAN:

20 Q. What is your full name, Mr. Johnson?

21 A. James C. Johnson.

22 Q. And what is your occupation?

23 A. I'm president of Petroleum Development  
24 Corporation, Albuquerque, New Mexico.

25 Q. Can you tell the Commission briefly what your

1 experience is in this area?

2 A. I've worked in the oil and gas business as a  
3 petroleum engineer for 38 years.

4 Q. What are you seeking today in Cases 11,082,  
5 11,083 and 11,084.

6 A. We're seeking to horizontally drill in the San  
7 Andres formation short-radius arcs, which we still classify  
8 as a short-radius arcs, to recover additional reserves that  
9 have not been recovered to date.

10 Q. Have you done this in previous reserves?

11 A. Yes, we have. They may -- Do you guys want to  
12 accept me as a witness or --

13 Q. First let me just ask you, you've done this in  
14 previous reserves?

15 A. Yes, I have.

16 MS. COOGAN: Okay. Will the Commission accept  
17 Mr. Johnson as an expert, or shall we go into further  
18 background?

19 EXAMINER STOGNER: No, Mr. Johnson has testified  
20 here before, and it's on the record and his credentials are  
21 acceptable.

22 Q. (By Ms. Coogan) Mr. Johnson, would you explain  
23 to the Commission your Application?

24 A. Okay, I'll start here with Case 11,082. This is  
25 a project on the State 32 lease. Petroleum Development

1 Corporation is the owner.

2 Exhibit 1 has a -- shows a map of the area. I've  
3 highlighted the two horizontal well acreages we're going to  
4 be drilling.

5 The Number 2 well will be drilled, hopefully, in  
6 a northwesterly direction, cutting all the way across the  
7 40-acre spacing unit.

8 The Number 4 well will be drilled from across the  
9 40 acres it's on to the west 40 acres offsetting it, which  
10 is the same lease, and to cover a longer area.

11 Also I've highlighted the offset operators,  
12 generally, in that area around these leases.

13 In this particular one, there are Yates  
14 Petroleum, Yates Energy and Murphy Operating.

15 Exhibit 2 lists the offset operators.

16 Exhibit 3 is a breakdown on the horizontal  
17 drilling procedure for the State 32-2.

18 We will set a cement retainer and squeeze off  
19 existing perforations. We will then mill the 4-1/2-inch  
20 casing from approximately 3498 to 3573. We'll set a cement  
21 plug and drill out to approximately 3548 feet.

22 We'll also run -- At that time we'll run a  
23 directional survey of the wellbore to determine the bottom  
24 of the existing well.

25 We'll go in with horizontal tools and kick off

1 the cement plug at approximately 3548. We'll drill a 220-  
2 plus-or-minus-foot radius curve at an inclination of  
3 approximately 85 to 90 degrees and conduct surveys every 35  
4 feet of the arc.

5 The earlier wells that we drilled out here in  
6 horizontal holes, we drilled 60- to 80-foot-radius arcs.  
7 We ran into several problems. One was a problem of  
8 control, both to vertical depth and hitting a designated  
9 point.

10 A 200-foot-radius arc has been drilled out here  
11 on one of those existing wells, and we had much better  
12 control. In the true vertical depth we stayed within a  
13 window of five feet, and we hit our designated point within  
14 ten feet.

15 Also, we were allowed to go out much farther on  
16 the wells. We could go out 1500 foot rather than 800 to  
17 1000 feet.

18 This particular well is just on a 40-acre tract.  
19 It will be drilled diagonally across the 40-acre spacing  
20 unit. We'll drill the lateral approximately 800-plus-or-  
21 minus feet in the direction of our choice, which our choice  
22 is going to be to go to the northwest since the well is  
23 located in the -- 330, 330 from the southeast of the 40-  
24 acre spacing unit. In the lateral we'll conduct surveys  
25 every 70 feet. We also -- We'll request that we can go

1 within 100 foot of existing lease lines.

2 Exhibit 4, this particular exhibit, is a  
3 schematic going over exactly what I went through.

4 Exhibit 5 is the horizontal drilling procedure  
5 for the State 32 Number 4. It's the same procedure we're  
6 using before. The only difference is, we're going to be  
7 cutting across the undrilled 40-acre spacing unit, and we  
8 would drill laterally approximately 1500 foot, plus or  
9 minus, rather than the 800 foot I showed in the other well.

10 Again, we'll be conducting surveys, 35 foot in  
11 the arc and every 75 foot in the lateral.

12 This procedure has been very mechanically  
13 successfully done. And as I said before, we have very good  
14 control.

15 Also, we're requesting in these -- Do you want me  
16 to go ahead and go through 11,083 and -84, Mike, or --

17 EXAMINER STOGNER: However you feel comfortable,  
18 Mr. Johnson.

19 THE WITNESS: Okay. I mean, do you want to go  
20 through each well, or how do you want to do it? They're  
21 all similar.

22 EXAMINER STOGNER: I'll tell you what, let's take  
23 administrative notice of the previous four orders that you  
24 had mentioned, Ms. Coogan.

25 Is there anything in the other wells in this area

1 that's out of the ordinary, that you haven't covered in the  
2 two wells that you just mentioned? Are they all completed  
3 somewhat similarly?

4 THE WITNESS: Yes, they're all completed in the  
5 San Andres formation. We'll -- In each case we'll be doing  
6 the same procedure. We're going to squeeze off existing  
7 perfs, we'll be milling out in 4 1/2 or 5 1/2 casing, which  
8 -- of these ten wells listed in here, four wells out of 5  
9 and four wells out of 4 1/2, six of the wells will be out  
10 of 5 1/2.

11 We'll mill out approximately 75 foot of casing in  
12 each of the wells, and then we'll cut about a 220, plus or  
13 minus, arc and go out -- In all those cases, all the  
14 additional cases, we're going to be trying to go out about  
15 1500 foot in the lateral on all those wells, in Case Number  
16 11,083 and 11,084.

17 EXAMINER STOGNER: I don't think it will be  
18 necessary, Ms. Coogan, to go through all the separate  
19 wells --

20 MS. COOGAN: Okay.

21 EXAMINER STOGNER: -- considering the exhibits  
22 and Mr. Johnson's testimony. So you may proceed however  
23 you feel is necessary at this point to cover any of the  
24 other items that need to be covered at this time.

25 MS. COOGAN: Right. As I mentioned, Case 11,082

1 has two, Case 11,083 has three wells, and Case 11,084 has  
2 five wells.

3 In the previous orders, the allowable assigned to  
4 each project area was equal to 80 BOPD times the number of  
5 standard 40-acre proration units within the project area.  
6 And that's also the same request we have here today for the  
7 three cases.

8 Q. (By Ms. Coogan) Mr. Johnson, does this -- the  
9 Applications before this Commission promote the interest of  
10 conservation and the prevention of waste?

11 A. In my opinion, yes.

12 Q. Have you notified all the offset operators or  
13 interest owners in the immediate areas in -- that are  
14 appropriate to be notified with respect to each of the  
15 Applications?

16 A. Yes.

17 Q. Have you received any opposition from any of  
18 them?

19 A. No.

20 Q. Have you received any comments from any of them?

21 A. No.

22 Q. Is there anything about these Applications,  
23 11,082, 11,083 and 11,084, that would result in the  
24 violation of correlative rights or of any interest owners'  
25 rights in the project areas?

1           A.    The only change we're making here is, on a  
2 spacing unit, a normal 40-acre spacing unit, we are  
3 required to stay 330 feet from lease lines. In these  
4 Applications we're applying to go within 100 feet from the  
5 lease lines, which will allow us to completely drain the  
6 40-acre spacing units that we feel are not drained at the  
7 present time.

8           The correlative rights will be protected by the  
9 offset operators because they will also be able to drill  
10 wells 100 feet from our lease lines, if necessary, if they  
11 feel like it's necessary, and allow both of us to possibly  
12 completely drain the 40-acre spacing units.

13           Q.    Mr. Johnson, was that also the case in the  
14 previous orders entered by the Commission?

15           A.    Yes.

16           Q.    You put -- You went within 100 feet of those  
17 lines --

18           A.    Yes.

19           Q.    -- lease lines?

20           Is there anything else in these Applications,  
21 11,082, 11,083 or 11,084, that is different or additional  
22 to the previous orders entered by the Commission in 1993?

23           A.    No.

24           MS. COOGAN: Unless the Commission has questions,  
25 I believe that's all we have.

## EXAMINATION

1  
2 BY EXAMINER STOGNER:

3 Q. Mr. Johnson, since you have done some of these  
4 out there, or several of these out in this Chaveroo area,  
5 have you had any discussions with our district office in  
6 Hobbs, perhaps, how these wells are to be plugged and  
7 abandoned at any such time, or has there been any thought  
8 on that?

9 A. No, I have not.

10 Q. Do you have any feelings on that, how these wells  
11 should be plugged and abandoned at the time of depletion?

12 A. In all cases, just pump -- we'll be -- just pump  
13 a cement plug in the well to bring it -- bring the cement  
14 plug in the well back up into the casing. You may want to  
15 do it with a cement retainer set in the casing and just,  
16 you know, pump the well to squeeze it off, is what I would  
17 recommend.

18 Q. So you would recommend fill the hole, open-hole  
19 interval and the curved interval up with cement back to the  
20 casing; is that what you're saying?

21 A. Yes.

22 Q. Okay. On the previous horizontal wells out here,  
23 you have been allowed to get up to 100 feet of the  
24 boundary. What is the closest that you have measured up to  
25 those, up to the boundary line?

1           A.    About 110 feet in possibly two cases.  Normally  
2    -- Again, I'd have to look.  But I'd say two or three cases  
3    we have gone where we're going, you know, sort of direct  
4    into -- within 110.

5            Most of them have stopped because of mechanical  
6    problems or some other problem, we had to stop 200 or 300  
7    feet or more from the lease lines.

8           Q.    As far as controlling, once you get your  
9    horizontal portion started, controlling the direction in  
10   which it is going --

11          A.    I --

12          Q.    -- has that been difficult?

13          A.    What a lot of people -- Cutting the 60 foot/80  
14   foot, we had many problems.  We've had wells that we want  
15   to go, say, in a northeasterly direction, they got out  
16   there 300 or 400 or 500 foot, and they were going off to  
17   the left, they turned it right, turned a full 90, and ended  
18   up 600 foot from our designated point.

19                That's why I decided after five wells to change  
20   this particular procedure and go to the 200-foot radius.

21                With a 200-foot-radius arc, we have much more  
22   control, and there are other advantages too.  You can run  
23   production tools in it much easier for completions.  We can  
24   actually run electric logs in the well if we want to.  So  
25   that's why we changed to the 200.

1 I felt very comfortable having pretty good  
2 control.

3 However, I've seen other horizontal wells and,  
4 you know, sometimes you get up there and you can hit a  
5 change of formation for some reason or other. Most of  
6 those are just turns, and you just have an awfully hard  
7 time getting the turn back.

8 So if they do, you just go out, you know, your  
9 maximum distance you can go, staying within these  
10 parameters, and have to stop.

11 Q. And what makes the window philosophy that we've  
12 sort of adopted here in this state helpful in your case?

13 A. What?

14 Q. The window philosophy that we have adopted. In  
15 other words --

16 A. Yeah.

17 Q. -- setting up a window that you can stay within.  
18 That has helped in your case?

19 A. Yes, it has.

20 Q. Okay. The thing about 11,082 that differs from  
21 the previous ones is the non-contiguous acreage. But  
22 you're planning on drilling two wells, and that one that's  
23 in that -- the Number 2 well being within the single 40-  
24 acre tract that's sitting off by itself, you're going to  
25 stay within 100 foot of that 40-acre proration unit; is

1 that correct?

2 A. That is correct.

3 Q. And then the other portion is an 80-acre laydown  
4 in the southwest quarter. You're going to be traversing  
5 from the east to the west and consolidating those two 80-  
6 acre -- or that two 40-acre units to make one 80-acre unit;  
7 is that correct?

8 A. That is correct.

9 Q. But all the others, your window will be around  
10 the circumference of the project itself, which are made up  
11 of contiguous 40-acre tracts?

12 A. That is correct.

13 Q. What has some of the production, your best  
14 production on these wells in this area, your horizontal  
15 wells -- Have they even come close to the allowable, or  
16 what's some of the best production?

17 A. Up to this time we've had some that came in  
18 fairly good. At the present time they're at an 80-acre  
19 spacing -- I mean, 80 barrels a day, we have not exceeded  
20 that except in two cases. And they fell off pretty  
21 rapidly, though.

22 So this has not been a situation that we needed  
23 additional allowables. However, after doing a lot of work  
24 on where we drill wells to date, where we're drilling them  
25 at this present time, we still feel like that -- well, we

1 especially cut across a 40-acre undrilled location, that we  
2 could get wells that could make more than 160 barrels a  
3 day.

4 I feel like -- I think the last order actually  
5 gave the head of the OCC in Hobbs -- If we applied for the  
6 additional 80-barrels-a-day allowable, we would get it  
7 based on the project area.

8 Whereas, I've actually not done that on this last  
9 program because I haven't -- I've just turned in a test  
10 by -- well by well, and take the allowable accordingly.

11 EXAMINER STOGNER: I have nothing further of Mr.  
12 Johnson at this time.

13 Ms. Coogan, I'll turn him back over to you, if  
14 you have any other questions.

15 FURTHER EXAMINATION

16 BY MS. COOGAN:

17 Q. Is there anything, Mr. Johnson, that I haven't  
18 covered that you would like to add regarding these  
19 Applications?

20 A. Not at this time.

21 Q. Is there anything in the prior orders that you  
22 are seeking to change or adjust, that were entered in 1993?  
23 Were there any provisions of the orders in 1993 that you  
24 would like to see changed or modified in this Application?

25 A. I feel like the only one that's in the

1 Application was that -- I believe in the Application we  
2 stated that additional horizontal wells could be drilled in  
3 the project area with an admin approval.

4 I think I have a copy of that in front of me, b  
5 the way.

6 Q. The prior order?

7 A. Yeah.

8 EXAMINER STOGNER: Yeah, it's included in each of  
9 them.

10 Is there any --

11 THE WITNESS: Yes.

12 EXAMINER STOGNER: -- plans at this time, or just  
13 in case one of the wells triggers on you and you can drill  
14 another one?

15 MS. COOGAN: That's a very good plan, because  
16 we'd be under the same rules, we'd still have to file an  
17 admin approval in -- but that would be for a well only  
18 drilled in each prospect area, right -- project area.

19 EXAMINER STOGNER: While I've got Mr. Johnson on  
20 the stand, I'd like to also add, I foresee probably within  
21 the next six months, perhaps, the Division either on its  
22 own motion or have some operator come in and request some  
23 rule changes, general rule changes, to Rule 111 to include  
24 an administrative procedure for horizontal wells.

25 That's a long time coming, but Mr. Johnson, I'd

1 like for you -- I'd like to ask you to keep watch of it and  
2 perhaps participate in that.

3 THE WITNESS: Yes, sir.

4 EXAMINER STOGNER: You have, as far as down in  
5 the southeast, drilled quite a few of these oil test cases,  
6 but the general rules would include for gas pools and gas  
7 wells and for other purposes.

8 But I would like to ask in particular yourself to  
9 look out for it and maybe perhaps come up and support it,  
10 offer some testimony if you could. It would be greatly  
11 appreciated. And these cases that you have brought forth,  
12 I'm sure, will be mentioned in that rule-change hearing.  
13 But I'd like to ask your cooperation in that.

14 If there's nothing further, Mr. Johnson, you may  
15 be excused.

16 Ms. Coogan, is there anything further?

17 MS. COOGAN: No, nothing else, sir.

18 EXAMINER STOGNER: At this time I'll take Cases  
19 11,082, 11,083 and 11,084 under advisement.

20 (Off the record)

21 EXAMINER STOGNER: Let me re-open those three  
22 cases because I did forget forget something, to admit all  
23 the exhibits into evidence in these three cases. Those are  
24 marked Exhibits 1 in each case, and then an Exhibit 2.

25 Now, there was mention of other exhibits included

1 in Exhibit 1. We'll just call those sub-exhibits, and I'll  
2 get with the reporter and get that straightened out.

3 MS. COOGAN: If you want, Hearing Officer, we  
4 could put Exhibit 1 and then A, B, C, D, if that would make  
5 it easier.

6 EXAMINER STOGNER: I think that probably would.

7 MS. COOGAN: I'll be glad to re-mark them.

8 EXAMINER STOGNER: With that, again, I'll take  
9 these three cases under advisement.

10 \* \* \*

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## CERTIFICATE OF REPORTER

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

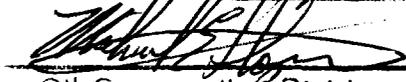
I, Deborah O'Bine, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that my notes were transcribed under my supervision; and that the foregoing is a true and accurate record of the proceedings.

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.



DEBORAH O'BINE  
 CCR No. 63

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case Nos. 11082-84 heard by me on 15 September 1994.

, Examiner  
 Oil Conservation Division