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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 NO. 10,902  
APPLICATION OF AMOCO PRODUCTION )  
COMPANY )

**ORIGINAL**

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: JIM MORROW, Hearing Examiner

MAR 2 1 1994

February 3rd, 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, February 3rd, 1994, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

February 3rd, 1994  
Examiner Hearing  
CASE NO. 10,902

PAGE

APPEARANCES

3

APPLICANT'S WITNESSES:

GARY A. WEITZ

Direct Examination by Mr. Carr  
Examination by Examiner Morrow

4  
9

IRA PASTERNAK

Direct Examination by Mr. Carr  
Examination by Examiner Morrow

10  
16

JAMES WILLIAM HAWKINS

Direct Examination by Mr. Carr  
Examination by Examiner Morrow

18  
23

FRANK A. SEIDEL

Direct Examination by Mr. Carr  
Examination by Examiner Morrow

24  
28

REPORTER'S CERTIFICATE

30

\* \* \*

E X H I B I T S

	Identified	Admitted
Exhibit 1	7	9
Exhibit 2	11	27
Exhibit 3	14	16
Exhibit 4	20	23
Exhibit 5	21	23
Exhibit 6	22	23

\* \* \*

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

1  
2  
3 FOR THE DIVISION:

4 ROBERT G. STOVALL  
5 Attorney at Law  
6 Legal Counsel to the Division  
7 State Land Office Building  
8 Santa Fe, New Mexico 87504

9  
10 FOR THE APPLICANT:

11 CAMPBELL, CARR, BERGE & SHERIDAN, P.A.  
12 Suite 1 - 110 N. Guadalupe  
13 P.O. Box 2208  
14 Santa Fe, New Mexico 87504-2208  
15 By: WILLIAM F. CARR

16 \* \* \*

1           WHEREUPON, the following proceedings were had at  
2   9:11 a.m.:

3           EXAMINER MORROW: Call the hearing to order  
4   again, and call Case 10,902.

5           Call for appearances.

6           MR. CARR: May it please the Examiner, my name is  
7   William F. Carr with the Santa Fe law firm Campbell, Carr,  
8   Berge and Sheridan.

9           I represent the Applicant in this case, Amoco  
10   Production Company, and I have four witnesses.

11          EXAMINER MORROW: All right. I failed to state  
12   what the Application concerns. It's the Application of  
13   Amoco Production Company for a high angle/horizontal  
14   directional drilling pilot project area and special  
15   operating rules therefor, San Juan County, New Mexico.

16          Will the witnesses stand to be sworn?

17          (Thereupon, the witnesses were sworn.)

18          MR. CARR: At this time, Mr. Morrow, we call Gary  
19   Weitz.

20                         GARY A. WEITZ,

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

23                                 DIRECT EXAMINATION

24   BY MR. CARR:

25           Q.    Would you state your full name for the record,

1 please?

2 A. My name is Gary A. Weitz.

3 Q. And where do you reside?

4 A. Denver, Colorado.

5 Q. Mr. Weitz, by whom are you employed?

6 A. I'm employed by Amoco Production Company.

7 Q. And what is your current position with Amoco?

8 A. I'm a senior land negotiator with Amoco.

9 Q. Have you previously testified before the New  
10 Mexico Oil Conservation Division?

11 A. No, I have not.

12 Q. Could you briefly summarize for Mr. Morrow your  
13 educational background and then review briefly your work  
14 experience?

15 A. Yes, I graduated from Indiana University with a  
16 master's and a doctorate degree in the area of exercise  
17 physiology and statistics in 1971. After that, I was  
18 employed by the University of Alaska as an assistant  
19 professor, and then by the University of Wisconsin in  
20 Madison as assistant professor.

21 In 1980 I joined Amoco Canada Petroleum Company,  
22 Limited, in Calgary, Alberta, Canada. I worked in the  
23 areas -- several provinces across Canada and east coast  
24 offshore.

25 In July of 1993 I transferred to Amoco Production

1 Company in Denver, and I currently work the San Juan Basin  
2 in New Mexico.

3 Q. Are you familiar with the Application filed in  
4 this case on behalf of Amoco?

5 A. Yes.

6 Q. Are you familiar with the status of the lands in  
7 and surrounding the project area which is the subject of  
8 this case?

9 A. Yes.

10 MR. CARR: We tender Mr. Weitz as an expert  
11 witness in petroleum land matters.

12 EXAMINER MORROW: His qualifications are  
13 acceptable.

14 MR. CARR: Thank you

15 Q. (By Mr. Carr) Mr. Weitz, could you briefly state  
16 what Amoco seeks in this case?

17 A. Amoco is seeking approval of a directional  
18 drilling pilot project area, and this location is in the  
19 south half of Section 27, Township 32 North, Range 11 West.

20 And we're also seeking authority to drill a high-  
21 angle horizontal well within the project area, and this  
22 would be drilled from the Van Hook LS Number 1 well, which  
23 is located 800 feet from the south line and 1090 feet from  
24 the west line, located in Unit M.

25 We're also asking for special operating rules

1 that would permit the traverse of quarter and quarter-  
2 quarter section lines with a horizontal wellbore within the  
3 project area.

4 And we're also asking for a special operating  
5 rule that would permit to drill within 790 feet of the  
6 outer boundary of the project area.

7 Q. And that 790-foot setback is a standard setback  
8 for a well at this depth; is that right?

9 A. Yes, it is.

10 Q. Could you identify what has been marked as Amoco  
11 Exhibit 1 in the exhibit book? Identify this and then  
12 review it for the Examiner.

13 A. Exhibit 1 is a land plat indicating the sections  
14 within Township 32 North, Range 11 West, and specifically  
15 what we're looking at is the south half of Section 27,  
16 which is the pilot project area, and in the southwest  
17 quarter is located the Van Hook LS Number 1 well.

18 Also indicated on this plat is the offsetting  
19 operators, indicated by the number "1", and the number "1"  
20 represents Amoco Production, who is the offsetting operator  
21 of all the spacing -- offsetting spacing units.

22 Q. Mr. Weitz, we've received a call from Hallador  
23 Petroleum Company concerning this project. Could you  
24 advise the Examiner whereabouts Hallador's interest is  
25 actually located?

1           A.    Yes, Hallador is located in the south half of  
2 Section 24 and also in the east half of Section 22.

3           Q.    So they were not within the area that we were  
4 required to notify of this particular Application under the  
5 OCD rules?

6           A.    No, they were not.

7           EXAMINER MORROW:   What was the name of that  
8 company again?

9           MR. CARR:   Hallador, H-a-l-l-a-d-o-r.   I think it  
10 was previously Kimbark.

11          EXAMINER MORROW:   Go ahead.

12          Q.    (By Mr. Carr)   What is the status of the  
13 ownership under the south half of Section 27?

14          A.    South half of Section 27 is held 75 percent by  
15 Amoco Production Company and 25 percent by Conoco, Inc.

16          Q.    Because Amoco is the only offsetting operator, no  
17 notice of this hearing was required; is that correct?

18          A.    That's correct.

19          Q.    Will Amoco also call geological and engineering  
20 witnesses to review the technical aspects of this  
21 Application?

22          A.    Yes, we will.

23          Q.    Was Exhibit Number 1 prepared by you?

24          A.    Yes, it was.

25          MR. CARR:   At this time, Mr. Morrow, we move the

1 admission of Amoco Exhibit Number 1.

2 EXAMINER MORROW: Exhibit Number 1 is admitted.

3 MR. CARR: That concludes my direct examination  
4 of Mr. Weeks.

5 EXAMINATION

6 BY EXAMINER MORROW:

7 Q. You mentioned the project area, approval of  
8 operating rules for a project area. Would -- Is the  
9 project area the south half of Section 27?

10 A. Yes, it is.

11 Q. Would you anticipate that wells other than the  
12 one in the Application would be applied for and drilled in  
13 this project area in the future, or would this be -- would  
14 this be the project?

15 A. This would be the project.

16 Q. So it doesn't anticipate any additional drilling?

17 A. Not at this time.

18 Q. So the operating rules you're requesting would be  
19 for -- just for this well?

20 A. That's correct.

21 Q. And anything that was approved would apply only  
22 to this well; is that correct?

23 A. That's correct.

24 EXAMINER MORROW: Bob, do you have any questions?

25 MR. STOVALL: Huh-uh.

1 EXAMINER MORROW: Thank you, Mr. Weitz.

2 THE WITNESS: Thank you.

3 MR. CARR: At this time we call Mr. Pasternack.

4 IRA PASTERNAK,

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

7 DIRECT EXAMINATION

8 BY MR. CARR:

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

10 A. My name is Ira Pasternack.

11 Q. Where do you reside?

12 A. In Denver, Colorado.

13 Q. By whom are you employed?

14 A. By Amoco Production Company in Denver, Colorado.

15 Q. And what is your current position with Amoco?

16 A. I'm a staff geologist for them.

17 Q. Have you previously testified before this  
18 Division?

19 A. No, I haven't.

20 Q. Could you review for Mr. Morrow your educational  
21 background and then briefly summarize your work experience?

22 A. Yes. I received my undergraduate degree from  
23 Occidental College in Los Angeles, California, in 1976 with  
24 a major in geology.

25 I received my master of science degree, again

1 with a major in geology, from Colorado School of Mines in  
2 Golden, Colorado, in 1982.

3 I've been continuously employed by Amoco  
4 Production Company in Denver, Colorado, since October,  
5 1980. For the last three years, my work with Amoco has  
6 focused on evaluation of development and exploration  
7 projects with tight formation gas sands. The last year and  
8 a half I've been focusing my efforts on the Mesaverde  
9 group, evaluation in the San Juan Basin.

10 In 1987, I did the geological work on another  
11 horizontal well that Amoco drilled in the overthrust belt  
12 of southwestern Wyoming.

13 Q. Are you familiar with the Application filed in  
14 this case?

15 A. Yes, I am.

16 Q. Have you made a geologic study of the area  
17 surrounding the project area in the Blanco-Mesaverde Pool?

18 A. Yes, I have.

19 MR. CARR: We tender Mr. Pasternack as an expert  
20 witness in petroleum geology.

21 EXAMINER MORROW: All right, we accept his  
22 qualifications.

23 THE WITNESS: Thank you.

24 Q. (By Mr. Carr) Mr. Pasternack, let's go to what  
25 has been marked as Exhibit 2 in the exhibit book -- this is

1 a composite exhibit -- and I would ask you first to refer  
2 to the yellow block in the upper right-hand portion of the  
3 exhibit. Identify this and review it for Mr. Morrow,  
4 please.

5 A. The yellow block you're referring to is a  
6 horizontal plan or map view of the area around our proposed  
7 re-entry of the Van Hook well. The black line indicates  
8 the outline of the south half of Section 27, 32 North, 11  
9 West.

10 Located within that 790-foot setback from the  
11 second boundary is the proposed drilling window. Located  
12 within that drilling window, indicated by the small black  
13 dots in the southwest-southwest quarter quarter section of  
14 Section 27, is the location of the Van Hook LS Number 1  
15 that was drilled and completed in June of 1955. In the  
16 northeast-southeast quarter quarter section is the location  
17 of an infill well that was completed in November of 1978,  
18 the Van Hook LS Number 1A.

19 Also shown on that diagram with the red line is  
20 our proposed horizontal or high-angle wellbore trajectory.  
21 The end of the lateral section of that wellbore is located  
22 1500 feet at a bearing of north 75 degrees east from the  
23 existing Van Hook LS Number 1 location.

24 Q. So basically what you're doing is drilling almost  
25 straight toward the infill well on this spacing unit?

1           A.    That's correct.

2           Q.    All right.  Let's go to the portion of the  
3 exhibit, the cross-section, consisting of the logs on  
4 either side of it, and I'd ask you to identify and review  
5 this portion of Exhibit 2.

6           A.    All right.  The -- On each end of the wellbore  
7 trajectory, we've put the wireline open-hole logs for the  
8 Van Hook LS 1, our subject well, and the infill well to the  
9 northeast.

10                    These logs demonstrate that there's a high degree  
11 of correlatability of the Mesaverde formations in this  
12 area, specifically within the Cliff House and what we term  
13 the Massive Point Lookout interval.

14                    The Massive Point Lookout interval is shaded with  
15 the dots on the display to indicate the interval that we  
16 intend to target with the horizontal or high-angle  
17 completion, and in this area that interval is approximately  
18 40 feet thick.

19                    Point out that the top of this Massive Point  
20 Lookout interval, or the top that I've correlated in the  
21 nine-section area surrounding the Van Hook well, that I've  
22 used to prepare a structure map that's Exhibit 3.

23           Q.    Before we do that, could you tell us why you're  
24 placing the horizontal hole in this particular direction,  
25 or is it more appropriate to do that with the structure

1 map?

2 A. It's more appropriate to do it with the structure  
3 map.

4 Q. All right. Well, let's go on to Exhibit Number  
5 3, and we will leave the wellbore schematic for a  
6 subsequent witness.

7 A. Point out too that the details of the wellbore  
8 trajectory diagram itself will be discussed in detail by  
9 our drilling engineer shortly.

10 Q. Okay. Let's go to Exhibit 3, the structure map.

11 A. Okay. The structure map, again, is on top of  
12 that shaded interval, the top of the Massive Point Lookout.  
13 And what it illustrates is that we've got regional dip  
14 generally towards the northeast at about one degree dip or  
15 less.

16 The most significant feature on the structure map  
17 is a flexure zone that goes through the middle portion of  
18 the area with a northeast-southwest orientation.

19 Wells along this flexure zone have had slightly  
20 better production than the wells on the periphery of this,  
21 and in particular Barnes Number 6 well, located in the very  
22 northeastern corner of the map, has had significantly  
23 better production than the surrounding wells. And Bill  
24 Hawkins, our engineer, will talk about that in more detail  
25 shortly.

1 I've conducted a reservoir evaluation of the area  
2 and found that there is very little difference in terms of  
3 pay thickness, porosity, water saturation, et cetera, when  
4 you compare the Barnes 6 wells to the surrounding wells.  
5 Therefore, I attribute the differences in the productivity  
6 of that well and the other good wells in the area to the  
7 development of enhanced permeability that I attribute to  
8 natural fractures, and I attribute these natural fractures  
9 to be developed in association with this flexure zone.

10 Point out that I believe the origin of this  
11 flexure zone is due to basement fault movement that took  
12 place sometime after the deposition of this Point Lookout  
13 interval.

14 The high-angle horizontal wellbore would increase  
15 the probability of encountering fracture zones that we  
16 believe are locally developed in this area. It would  
17 substantially increase our chances of encountering these  
18 fracture zones.

19 By orienting the horizontal or high-angle  
20 wellbore trajectory to a bearing of north 75 degrees east  
21 from the existing wellbore, we will cross most of that  
22 flexure zone area, and we've conducted a fracture  
23 identification log in the Van Hook Number 1, and the  
24 fracture orientations corroborate that wellbore trajectory.

25 So in conclusion, I'd like to say that the

1 Massive Point Lookout, as we've illustrated, is present  
2 across the area and that it would provide a suitable target  
3 for our high-angle horizontal wellbore and that by using a  
4 high-angle horizontal wellbore we'll have a much higher  
5 probability of encountering some of these fracture zones  
6 that we believe are locally -- substantially improve the  
7 productivity of the Mesaverde in this area.

8 Q. Were Exhibits 2, the portions that you've  
9 discussed, and Exhibit 3 prepared by you?

10 A. Yes, sir, they were.

11 MR. CARR: At this time, Mr. Morrow, we would  
12 move the admission of Amoco Exhibit 3, and we'll move the  
13 admission of 2 after the whole exhibit is reviewed.

14 EXAMINER MORROW: Exhibit 3 is admitted.

15 MR. CARR: That concludes my direct examination  
16 of Mr. Pasternack.

17 EXAMINATION

18 BY EXAMINER MORROW:

19 Q. Let me -- You mentioned, or I thought you did, a  
20 Number 6 well --

21 A. Yes, sir.

22 Q. -- that was a good well, and I never did find it  
23 on the exhibit.

24 A. It's the very northeastern portion of the map,  
25 sir, the Barnes Number 6. It's the well that has a

1 structural elevation of 906 feet.

2 Q. So the flexure zone you're talking about is -- it  
3 extends from the northeast corner of 23 down to the  
4 southwest of 34; is that --

5 A. Yes, sir. Yes, sir.

6 Q. Okay. Do you know if there have been other  
7 similar horizontal wells drilled in the Blanco-Mesaverde  
8 Pool?

9 A. Yes, sir, there's been three wells drilled by  
10 Meridian that are located about 30 miles to the east  
11 southeast of this area.

12 Q. And that's the only three you know of; is that --

13 A. In New Mexico. They just recently drilled one in  
14 Colorado.

15 Q. These three by Meridian were 30 miles what  
16 direction?

17 A. East southeast.

18 One of them is located in Township 30 North, 9  
19 West. Two of them are located in Township 30 North, 8  
20 West.

21 Q. Were they successful? Or do you know?

22 A. Yes.

23 EXAMINER MORROW: Thank you, Mr. Pasternack.

24 THE WITNESS: Thank you.

25 MR. CARR: At this time we call Bill Hawkins.

1                   JAMES WILLIAM HAWKINS,

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

4                   DIRECT EXAMINATION

5   BY MR. CARR:

6           Q.    State your name for the record, please.

7           A.    James William Hawkins.

8           Q.    And where do you reside?

9           A.    In Denver, Colorado.

10          Q.    By whom are you employed and in what capacity?

11          A.    Amoco Production Company, as a petroleum  
12   engineer.

13          Q.    Have you previously testified before this  
14   Division and had your credentials as a petroleum engineer  
15   accepted and made a matter of record?

16          A.    Yes.

17          Q.    Are you familiar with the Application filed in  
18   this case on behalf of Amoco?

19          A.    Yes, I am.

20          Q.    Are you familiar with the status of the Van Hook  
21   LS Well Number 1?

22          A.    Yes, I am.

23                   MR. CARR: Are the witness's qualifications  
24   acceptable?

25                   EXAMINER MORROW: Yes, sir.

1 Q. (By Mr. Carr) I think initially, Mr. Hawkins,  
2 you might explain to Mr. Morrow the reasons behind this  
3 particular Application.

4 A. Well, as we stated before, the reasons behind  
5 this Application are to improve our probability of  
6 encountering fractures and hopefully substantially improve  
7 the recovery from the Van Hook LS Number 1 well.

8 Q. The Van Hook LS Number 1 well is a fairly -- has  
9 been a fairly good well in this formation, has it not?

10 A. Yes, it has been.

11 Q. And why was this well selected?

12 A. This well was selected for a number of reasons.  
13 One is that it was drilled open-hole, it has only been --  
14 had a small stimulated frac in the -- primarily in the  
15 Upper Mesaverde.

16 It's one of the few open-hole wells that was not  
17 treated with nitroglycerine, so it still is a fairly good  
18 candidate for directional drilling.

19 And it's in the proximity of this flexure zone  
20 where we've seen some improved recoveries from wells and  
21 have some indications that there are fractures present in  
22 the area.

23 Q. It is currently a producing well in the Blanco-  
24 Mesaverde?

25 A. Yes, it is.

1 Q. All right. Let's go to Exhibit Number 4. Could  
2 you identify this and review it for Mr. Morrow, please?

3 A. Yes, Exhibit Number 4 is a nine-section plat that  
4 shows the cumulative recovery from the Mesaverde wells in  
5 this area.

6 And if we'll start just in Section 27, the Van  
7 Hook Number 1 well has recovered approximately 7.4 BCF of  
8 gas to date. That's within our project area.

9 If we'll look at the wells that run kind of in  
10 the northeast-to-southwesterly direction, you'll see that  
11 most of the wells that were first wells in the pool have  
12 been producing -- 30 years or more, have produced around 7  
13 to 8 BCF. And we note the Barnes well up in the far  
14 northeast corner, around 15.8.

15 Well, all of the wells are slightly better than  
16 the average well in this general area. I think that's  
17 indicative of the presence of fractures in the area. We  
18 just think that the Barnes Number 6 well probably  
19 encountered the fractures directly and has very good  
20 communication with the fractures.

21 If we look at the infill wells, most of the wells  
22 in this area have recovered on the order of 2 to 3 BCF, and  
23 there don't appear to be any -- you know, any significant  
24 changes. Really, the older wells that we can see, longer  
25 term increased recovery from this area.

1 Q. So basically there appears to have been no  
2 drainage from the offsetting wells due to these wells with  
3 the high cums on this trend across this plat?

4 A. That's exactly right. I would say that the --  
5 even the Barnes Number 6 well that's recovered 15.8, the  
6 offsets to that well have recovered 1.5 to 3 BCF and don't  
7 appear to be showing any adverse drainage from that Barnes  
8 Number 6. Those appear to be fairly similar to any other  
9 infill wells within this nine-section area.

10 Q. All right, let's move to Exhibit Number 5. Would  
11 you identify and review that, please?

12 A. Yes, Exhibit Number 5 is again a nine-section  
13 plat with the Mesaverde wells, showing the expected  
14 ultimate recoveries.

15 And as you can see, it's still a very similar  
16 trend from the cumulative recoveries. The wells running  
17 pretty much in the line from the very southwest corner to  
18 the northeast corner appear to be slightly better than,  
19 say, the other wells in this general area. They range from  
20 7.5, 8.4, 9.3 BCF, all the way up to the 22.4 BCF from the  
21 Barnes Number 6.

22 And what we're hopeful is that by re-entering  
23 this Van Hook Number 1 and drilling it horizontally and  
24 hopefully encountering some fractures directly in this  
25 well, we'll be able to even improve the recovery from the

1 Van Hook Number 1 well, even more than what's shown on this  
2 map.

3 And hopefully, well be able to achieve something  
4 closer to what the Barnes Number 6 well has achieved --  
5 recovered.

6 Q. All right. Let's now go to your economic  
7 analysis, Exhibit 6. Would you review this for Mr. Morrow?

8 A. Yes, this is just a simple summary from the  
9 economic analysis of our project.

10 We expect our horizontal recompletion to cost  
11 about \$400,000, and that's to -- Since the well's already  
12 been drilled, we'd really just be re-entering this well and  
13 drilling the horizontal leg of it.

14 We have an expected recovery here of an  
15 incremental 2 BCF. That's simply a hopeful expectation, I  
16 think, at this point. Maybe we'll be able to get something  
17 even better than that, but for the purposes of our  
18 economics we chose to use about 2 BCF, which would  
19 basically double the remaining reserves from the well, from  
20 its current state.

21 The expected IP, this is a 1.5-million-a-day  
22 incremental rate over the current rate of about 500 MCFD.

23 And then the economics that are shown with a  
24 present worth of, at zero discount, about \$7.7 million,  
25 present worth at ten-percent discount, at \$786,000, and a

1 rate of return of 53 percent.

2 Q. In your opinion, Mr. Hawkins, will approval of  
3 this Application result in the recovery of hydrocarbons  
4 that otherwise might not be produced?

5 A. Yes.

6 Q. Thereby preventing waste?

7 A. Yes.

8 Q. Will approval of the Application otherwise be in  
9 the best interest of conservation and the protection of  
10 correlative rights?

11 A. Yes.

12 Q. Were Exhibits 4 through 6 prepared by you or  
13 compiled under your direction?

14 A. Yes, they were.

15 MR. CARR: At this time, Mr. Morrow, we move the  
16 admission of Amoco Exhibits 4 through 6.

17 EXAMINER MORROW: 4 through 6 are admitted.

18 MR. CARR: And that concludes my direct  
19 examination of Mr. Hawkins.

20 EXAMINATION

21 BY EXAMINER MORROW:

22 Q. Mr. Hawkins, is the infill well still producing  
23 at this time?

24 A. Yes, it is.

25 Q. You probably indicate that on your exhibit.

1           A.    It's -- On Exhibit 4, it's shown to have  
2 cumulative recovery of 2.8 BCF, the Van Hook Number 1A.  
3 And on Exhibit 5, the expected ultimate recovery of about  
4 4.2 -- 2.8 up to 4.2.

5           Q.    Yes. Do you know what it's producing at this  
6 time, about?

7           A.    I do have some indication. Let me take a quick  
8 look here. It's making about 500 MCFD as well.

9           Q.    And Number 1 is 500 also?

10          A.    Approximately 500 for that one, yes, sir.

11                   EXAMINER MORROW: Thank you, Mr. Hawkins. That's  
12 all the questions I have.

13                   MR. CARR: At this time we call Frank Seidel.

14                                   FRANK A. SEIDEL,

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

17                                   DIRECT EXAMINATION

18 BY MR. CARR:

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

20           A.    Frank Arthur Seidel.

21           Q.    By whom are you employed?

22           A.    Amoco Production Company.

23           Q.    And in what capacity?

24           A.    As a staff drilling engineer.

25           Q.    Mr. Seidel, have you previously testified before

1 the Oil Conservation Division?

2 A. No, I have not.

3 Q. Could you briefly summarize for Mr. Morrow your  
4 educational background and your work experience?

5 A. I have a BS in chemical engineering from New  
6 Mexico State University, 1982.

7 I've been employed as a drilling engineer for  
8 Amoco for 12 years.

9 I've worked in Hobbs, New Mexico; Houston, Texas;  
10 and Denver, Colorado.

11 Q. Have you had experience with horizontal drilling?

12 A. Yes, I have.

13 Q. How many wells have you worked on?

14 A. I've drilled 12 horizontal wells, six in the  
15 Austin Chalk field of Texas, five in the Clear Springs  
16 field of Mississippi, and one in Oklahoma.

17 Q. Are you familiar with the Application filed in  
18 this case?

19 A. Yes, I am.

20 Q. And are you familiar with the Van Hook LS Well  
21 Number 1, the subject of the Application?

22 A. Yes, I am.

23 MR. CARR: At this time, Mr. Morrow, we tender  
24 Mr. Seidel as an expert witness in drilling engineering.

25 EXAMINER MORROW: We accept his qualifications.

1           Q.    (By Mr. Carr)  Let's go back to Exhibit Number 2,  
2  Mr. Seidel, and I would ask you to look at the central  
3  portion of the exhibit where there is a schematic drawing  
4  of the horizontal wellbore, and I would ask you, using this  
5  exhibit, to review for the Examiner exactly how Amoco  
6  proposes to drill this well.

7           A.    Okay, what we have depicted here is a wellbore  
8  schematic showing existing seven-inch, 20-pound, J-55  
9  casing set at 4320 feet.

10                This was originally an open-hole completion from  
11  4320 feet major depth all the way down to 5300 feet, and  
12  just tubing was run in the hole, and the well was produced  
13  open hole.

14                What we intend on doing is plugging back to a  
15  depth of 4835 with cement and then drilling out and kicking  
16  off with a medium radius motor assembly and build at 18  
17  degrees per hundred, with an air-mist type of drilling  
18  medium.

19                And the reason why we have to use air mist  
20  drilling medium is a bottomhole pressure of approximately  
21  500 p.s.i, that equates out to 1.85 pounds per gallon mud  
22  weight, which would necessitate us to use the air-mist type  
23  system.

24                We will survey with a steering tool and provide a  
25  survey to the Commission upon completion of the well.

1 Q. How much vertical -- or, I'm sorry, horizontal  
2 hole are you anticipating drilling?

3 A. We're anticipating a total vertical section of  
4 1500 feet. It's going to require about 306 feet to build  
5 the curve to 87.85 degrees, and then we'll transverse the  
6 entire Massive Point Lookout formation and end up with a  
7 terminus at the lateral of the base of the pay zone.

8 Q. You'll be able to control the horizontal portion  
9 of the well so that you're certain you won't be closer than  
10 790 feet to the outer boundary; is that correct?

11 A. Yes, sir.

12 Q. And you indicated you will provide the survey to  
13 the OCD?

14 A. Yes, sir.

15 Q. Was the central portion of this exhibit prepared  
16 by you?

17 A. Yes, sir.

18 MR. CARR: At this time, Mr. Morrow, I would move  
19 the admission of Amoco Exhibit Number 2.

20 EXAMINER MORROW: Exhibit 2 is admitted.

21 Q. (By Mr. Carr) Mr. Seidel, how soon does Amoco  
22 desire to commence the horizontal drilling of this well?

23 A. Upon approval.

24 Q. Do you request that the Order be expedited to the  
25 extent possible?



1 called the Division, and we wanted you to know that we had  
2 confirmed and in fact our notice was correct.

3 EXAMINER MORROW: Okay. Did you make them feel  
4 good about the Application?

5 MR. CARR: It made me feel relieved.

6 EXAMINER MORROW: I mean -- I was asking about  
7 Hallador.

8 MR. CARR: We haven't heard back from them.

9 EXAMINER MORROW: Okay. All right. Thank you,  
10 Mr. Seidel.

11 THE WITNESS: Thank you.

12 MR. CARR: Mr. Morrow, that concludes our  
13 presentation in this case.

14 EXAMINER MORROW: Case 10,902 will be taken under  
15 advisement.

16 (Thereupon, these proceedings were concluded at  
17 9:42 a.m.)

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