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

7
8 30 January 1985

9 EXAMINER HEARING

10 IN THE MATTER OF:

11 Application of Amoco Production
12 Company for NGPA Wellhead Price
13 Ceiling Category Determination,
14 San Juan County, New Mexico.

CASE
8471

15 BY: Michael E. Stogner, Examiner

16 TRANSCRIPT OF HEARING

17 A P P E A R A N C E S

18
19 For the Oil Conservation
20 Division:

Jeff Taylor
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

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22 For the Applicant:
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MR. STOGNER: Call next Case No. 8471, which the application of Amoco Production Company for Natural Gas Pricing Act Wellhead Price Ceiling Category Determination, San Juan County, New Mexico.

At the applicant's request, this case will be continued to the Examiner's Hearing scheduled for March 27, 1985.

(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.

I do hereby certify that the foregoing is
a complete and true copy of the proceedings in
the Examine hearing of Case No. 8471
heard by me on 30 January 1985.
Michael E. Hoger, Examiner
Oil Conservation Division

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

6 27 March 1985

7 EXAMINER HEARING

8 IN THE MATTER OF:

9 Application of Amoco Production Com- CASE
10 pany for NGPA Wellhead Price Ceiling 8471
11 Category Determination, San Juan Coun-
12 ty, New Mexico.

13 BEFORE: Michael E. Stogner, Examiner

14 TRANSCRIPT OF HEARING

15 A P P E A R A N C E S

16
17 For the Oil Conservation Division: Jeff Taylor
18 Attorney at Law
19 Legal Counsel to the Division
20 State Land Office Bldg.
21 Santa Fe, New Mexico 87501
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MR. STOGNER: Call next Case
No. 8471.

MR. TAYLOR: The application of
Amoco Production Company for NGPA Wellhead Price Ceiling
Category Determination, San Juan County, New Mexico.

The applicant has requested
that this case be continued.

MR. STOGNER: Case No. 8471
will be so continued to an Examiner's Hearing scheduled for
April 24, 1985.

(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 transcript
is a true and correct
record of the hearing
held on 27 March 1985
Michael E. Hooper
Oil Conservation Division

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

6
7 24 April 1985

8 EXAMINER HEARING

9 IN THE MATTER OF:

10 Application of Amoco Production Com-
11 pany for NGPA Wellhead Price Ceiling
12 Category Determination, San Juan
13 County, New Mexico.

CASE
8471
8566

14 BEFORE: Michael E. Stogner, Examiner

15
16 TRANSCRIPT OF HEARING

17
18 A P P E A R A N C E S

19 For the Oil Conservation
20 Division:

Maryann Lunderman
Attorney at Law
Energy and Minerals Department
Energy and Minerals Division
Santa Fe, New Mexico 87501

21
22 For the Applicant:

Stephen D. Ring
Attorney at Law
Amoco Production Company
P. O. Box 800
Denver, Colorado 80201

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I N D E X

CHARLES J. BOYCE

Direct Examination by Mr. Ring	7
Cross Examination by Mr. Stogner	14

E X H I B I T S

CASE 8471

Amoco Exhibit One-A, Cover Letter	
Amoco Exhibit Two-A, Form C-132	
Amoco Exhibit Three-A, Form 121	
Amoco Exhibit Four-A, Form C-101	
Amoco Exhibit Five-A, Form C-102	
Amoco Exhibit Six-A, Form C-105	
Amoco Exhibit Seven-A, NGPA Location Plat	
Amoco Exhibit Eight-A, Order R-7588	10
Amoco Exhibit Nine-A, Log	
Amoco Exhibit Ten-A, Area Plat	
Amoco Exhibit Eleven-A, Certificate of Mailing	
Amoco Exhibit Twelve-A, Sworn Statement	
Amoco Exhibit Thirteen, Field Map	9
Amoco Exhibit Fourteen, Cross Section	14

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E X H I B I T S CONT'D

Amoco Exhibit Fifteen-A, Produced Gas Analysis	
Amoco Exhibit Sixteen Gas Analysis	11
Amoco Exhibit Seventeen, Gas Analysis	11
Amoco Exhibit Eighteen, Gas Analysis	11
Amoco Exhibit Nineteen, Gas Analysis	11
Amoco Exhibit Twenty-A, Revised Location Plat	10
<u>CASE 8566</u>	
Amoco Exhibit One-B, Cover Letter	
Amoco Exhibit Two-B, Form C-132	
Amoco Exhibit Three-B, Form 121	
Amoco Exhibit Four-B, Form C-101	
Amoco Exhibit Five-B, Form C-102	
Amoco Exhibit Six-B, Form C-105	
Amoco Exhibit Seven-B, NGPA Location Plat	
Amoco Exhibit Eight-B, Order R-7588	10
Amoco Exhibit Nine-B, Log	
Amoco Exhibit Eleven-B, Certificate of Mailing	
Amoco Exhibit Twelve-B, Sworn Statement	
Amoco Exhibit Thirteen, Field Map	9
Amoco Exhibit Fourteen Cross Section	14
Amoco Exhibit Fifteen-B, Gas Analysis	
Amoco Exhibit Sixteen, Gas Analysis	11

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E X H I B I T S CONT'D

Amoco Exhibit Seventeen, Gas Analysis	11
Amoco Exhibit Eighteen, Gas Analysis	11
Amoco Exhibit Nineteen, Gas Analysis	11

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3 MR. STOGNER: We'll call next
4 Case 8471, which is the application of Amoco Production Com-
5 pany for NGPA Wellhead Price Ceiling Category Determination,
6 San Juan County, New Mexico.

7 Call for appearances.

8 MR. RING: Stephen Ring, R-I-N-
9 G, for Amoco Production Company in this case and in the fol-
10 lowing case.

11 I am associated with Mr. Wil-
12 liam Carr of the Santa Fe Law Firm Campbell and Black.

13 Mr. Examiner, Amoco would re-
14 quest consolidation of this case and the following one,
15 8566.

16 The exhibits in the two cases
17 are largely identical and the matter to be shown in each
18 case is the same.

19 MR. STOGNER: Are there any ob-
20 jections to continuing Case 8471 and 8566?

21 There being none, I will now
22 call for Case 8566, which is the application of Amoco Pro-
23 duction Company for NGPA Wellhead Wellhead Price Ceiling
24 Category Determination, San Juan County, New Mexico.

25 Mr. Ring, do you --

MR. RING: I appear for Amoco
in this case, as well.

MR. STOGNER: Okay. Are there

1
2 any other appearances in either one of these cases?

3 These cases will be so consoli-
4 dated for purposes of testimony.

5 MR. RING: Thank you.

6 Amoco will offer one witness in
7 these consolidated cases and I ask that he be sworn now.

8 (Witness sworn.)
9

10 MR. RING: Mr. Examiner, in
11 Case No. 8471 Amoco presents an application requesting a de-
12 termination that gas produced from Amoco's Wood Gas Com "A"
13 No. 1 is occluded natural gas produced from coal seams for
14 purposes of Section 107 of the Natural Gas Policy Act of
15 1978.

16 Case No. 8566, Amoco presents
17 an application requesting a determination that gas produced
18 from its Leeper Gas Com "D" No. 1-R Well is occluded natural
19 gas produced from coal seams for purposes of NGPA Section
20 107.
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CHARLES J. BOYCE,

being called as a witness in each of these cases and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. RING:

Q Mr. Boyce, at this time would you state your full name for the record, indicate by whom you are employed and in what capacity?

A My name is Charles Boyce, B-O-Y-C-E, and I'm employed by Amoco Production Company in Denver as a Senior Petroleum Engineering Associate.

Q Have you previously testified before this Commission or its Examiners in applications of Amoco for determinations that gas qualifies as occluded natural gas produced from coal seams?

A Yes, I have.

Q All right. Have you reviewed or supervised the preparation of the exhibits which Amoco offers today?

A Yes.

MR. RING: Mr. Examiner, I would ask Mr. Boyce's acceptance as a witness in this matter.

MR. STOGNER: Mr. Boyce is so qualified.

MR. RING: Thank you, sir.

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2 At this time I'm going to give
3 you all our exhibits at once.

4 In making applications under
5 the Natural Gas Policy Act, Amoco is required to mail in an
6 application and we did that for the Wood Well under letter
7 dated August 30, 1984.

8 Materials submitted with that
9 letter have been identified in this proceeding as Exhibits
10 One-A through Twelve-A. Many of the materials are necessary
11 to meet procedural requirements and do not contain evidence
12 which is necessary to our discussion this morning and there-
13 fore many of those Exhibits One-A through Twelve-A will not
14 be discussed.

15 Under cover of letter dated
16 March 18, 1985, Amoco submitted its application for the
17 Leeper Gas Com "D" No. 1-R.

18 The materials submitted with
19 that application are identified as Exhibits One-B through
20 Twelve-B.

21 Amoco bring additional exhibits
22 today and as you can see from the list numbers, Fifteen-A
23 and Twenty-A are concerned with the Wood Gas Com "A" No. 1
24 Well.

25 Exhibit Fifteen-B is concerned
with the Leeper Well and Exhibits Thirteen, Fourteen, Six-
teen, Seventeen, Eighteen, and Nineteen are identical to the
proceedings brought on both of these wells. Therefore those

1
2 exhibits do not contain in their number a suffix letter A or
3 B.

4 With that little preview of exhibits,
5 let's turn to the examination of Amoco's witness.

6 Q Mr. Boyce, for the record would you state
7 the full name and the location of the two wells for which
8 Amoco has submitted applications?

9 A The first well is the Wood Gas Com "A"
10 No. 1. It's located 1155 feet from the north line, 1745
11 feet from the east line of Section 4, 31 North, Range 10
12 West.

13 The second well is the Leeper Gas Com "D"
14 l-R. It's located 1500 feet from the south line, 840 feet
15 from the west line, Section 34, Township 32 North, Range 10
16 West.

17 Q All right, and could you indicate what
18 acreage is attributed to each of these two wells for spacing
19 purposes?

20 A I think it might be better right now if
21 we'd refer to Exhibit Number Thirteen, which is a map of the
22 entire area in the pool and the two wells, and covers most
23 of what we will discuss.

24 In Section 34 of 32 North, 10 West, the
25 Leeper "D" l-R is on a 320-acre unit consisting of the west
half of section 34.

The Wood Gas Com "A" No. 1 in the lower
township, 31 North, Range 10 West, is located in a 320 unit

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consisting of the north half of Section 4.

Q All right. Mr. Boyce, you'll notice that on Exhibit Seven-A, which was submitted with the original application for the Wood Gas Com "A" No. 1 Well, Amoco has shown acreage of only 160 acres attributed to that well.

Was that an inadvertent mistake?

A No, at the time the well was completed the well had been issued for the pool. Prior to that time Fruitland-Pictured Cliffs spacing area was 160. The pool that was formed and spaced on 320 for the coal zone was not in effect at that time.

Q All right. Has Amoco submitted a revised plat which shows the present spacing for that well?

A That's right. On that group of files, on Exhibit Twenty-A there is a revised plat showing the dedication of 320 acres for that well, which is the north half of Section 4.

Q All right. Mr. Boyce, has evidence previously been presented to the Oil Conservation Division that the acreage attributed to these two wells is underlain by a gas-bearing coal?

A That's correct.

Q I wonder if you could discuss that more at length, turning to your Exhibits Eight-A and Eight-B.

A Exhibit Eight-A in both cases is a copy of Order R-7588, which was issued in July of 1984. Based on testimony presented in January, 1984, evidence showed that

1
2 within the area outlined on Exhibit Thirteen the lower
3 Fruitland coal zone did exist and it was determined at that
4 time that within that area this would be designated as a
5 producing pool.

6 Q All right. Does Order No. 7588 give a
7 clear indication of the horizontal limit of the pool?

8 A That's correct.

9 Q And do those limits include the 320-acre
10 units attributed to the two wells that we're discussing here
11 today?

12 A Yes.

13 Q All right. What are the vertical limits
14 of the Cedar Hill Fruitland Basal Coal Pool as designated by
15 Order R-7588?

16 A They were determined and shown on the log
17 of the Schneider Gas Com "B" No. 1, which is in Section 28
18 of 32 North, 10 West, and at the hearing it was determined
19 that between the interval of 2795 and 2878 on the type log
20 of that well would be the vertical limits of the pool.

21 Q All right. Is the Wood Gas Com "A" No. 1
22 Well completed within those vertical limits of the pool we
23 are discussing?

24 A Yes, it is.

25 Q Is the Leeper Gas Com "D" No. 1-R com-
pleted within the vertical limits of the pool we are discus-
sing?

A Yes.

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2 Q All right. Mr. Boyce, what measures did
3 Amoco take to assure that the completion locations in each
4 of these two wells, and let's call those the the coal seam
5 completion locations, what measures did Amoco take to assure
6 that those completion locations are not in communication
7 with any zones other than the coal zone?

8 A In both cases casing was set through the
9 Basal Coal Zone, properly cemented, and only the coal seams
10 were perforated and in both cases very minimal stimulation
11 was utilized, so in my opinion with accepted oil field prac-
12 tices the coal is isolated for production in both these
13 wells.

14 Q All right. Does the gas which Amoco is
15 producing from the Cedar Hills Fruitland Basal Coal Pool
16 from each of these two wells have any unique characteristic
17 which differentiates it from gas found in the neighboring
18 formations?

19 A That's correct. In fact, in addition to
20 the mechanical isolation of the coal zone, which is critical
21 to separating that production from the overlying Fruitland
22 and the underlying Pictured Cliffs, the gas-producing coal
23 was rather unique, and I think a look at Exhibits Sixteen,
24 Seventeen, Eighteen, and Nineteen, which were actually a
25 part of the original presentation for the pool designation,
show that the gas produced from the coal zone is unique and
the analyses that we've presented with the Woods "A" No. 1
and the Leeper Gas Com "D" No. 1 compare with the gas that

1 was shown to be produced from the coal zone and signifi-
2 cantly different than the gas that has been produced in the
3 past from the overlying Fruitland formation and the under-
4 lying Pictured Cliffs formation.

5 The main differences are a fairly high
6 level of carbon dioxide in the coal seam gas compared a low
7 CO2 content in the -- in the sand type production. Fairly
8 low ethane plus in the coal gas resulting in a fairly low
9 BTU content. At the same time relatively higher ethane plus
10 values and BTU's in those other formations.

11 So based on the gas analyses we've pre-
12 sented and the comparison with previous data which supported
13 the coal seam as being unique, the coal is productive of gas
14 in these wells and that is the source of the gas.

14 Q All right. Thank you.

15 In your opinion after your study of this
16 matter and preparation of a number of these exhibits, does
17 the gas produced from the Wood Gas Com "A" No. 1 Well qual-
18 ify as occluded natural gas produced from coal seams for
19 purposes of Section 107 of the Natural Gas Policy Act.

20 A Yes, it does.

21 Q All right, and in your opinion does the
22 gas produced from the Leeper Gas Com "D" No. 1-R qualify as
23 occluded natural gas produced from a coal seam for purposes
24 of Section 107 of the Natural Gas Policy Act?

24 A Yes, it does also.

25 Q All right. Do you have anything further

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to testify?

A No. I might point out Exhibit Fourteen just for the record. It -- it does show the logs of the two wells on a section including the reference well for the pool, the Schneider "B" 1, and does show that the coal seam produced in the Leeper and the Wood is within the boundary set in the original order for which the Schneider was the type log.

Q All right, thank you.

MR. RING: Mr. Examiner, that concludes Amoco's testimony.

We would ask at this time that Exhibits Nos. One-A through Twelve-A, One-B through Twelve-B, Number Fifteen-A, Number 20-A and Nos. Thirteen, Fourteen, Sixteen, Seventeen, and Eighteen and Nineteen be admitted into evidence.

MR. STOGNER: All those exhibits that you just mentioned will be admitted into evidence at this time.

MR. RING: Thank you.

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Boyce, Exhibit Number Thirteen, your plat.

A Yes.

Q Okay, let's refer now to the west half of

1
2 Section 34, which is the proration unit dedicated to the
3 Leeper Well, I believe.

4 A Yes.

5 Q Okay. You show some other wells within
6 that proration unit. Would you briefly go over those and
7 where they're producing, if they're producing?

8 A The two wells, of course, in the north
9 half, the Leeper "B" No. 1 is an abandoned well. The Leeper
10 1-A is, to my best knowledge, a location which Amoco has
11 staked, which will be drilled to the Pictured Cliffs and has
12 not yet been drilled, and the Leeper "B" No. 1 in the south-
13 west of the southeast, in that south half of that 320, is an
14 older Pictured Cliffs producing well.

15 Q Okay, by the designation of the Gas Com
16 "D", in the OCD files we call it the 1-Y, however, I notice
17 that --

18 A On which well was that, Mr. Stogner?

19 Q The subject well, the Leeper "D" No. 1-R.

20 A The Leeper "D" No. 1-R?

21 Q Yes.

22 A I think -- let me look at the -- at the
23 original filing. I believe that the original name for that
24 well probably was the -- you indicated the Leeper Y?

25 Q Yes, sir.

A I believe what happened, and I stand cor-
rected, the Leeper "B" No. 1, or pardon me, Leeper "D" No. 1
I pointed out as being a Pictured Cliffs well?

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Q Uh-huh.

A That well in the past year and since this original filing was prepared, has been abandoned and this well was renamed the "D" 1-R, which meant a replacement well.

So that's why it originally was permitted as a Y well, being a lease name, and before it was drilled we abandoned the "D" No. 1 and called this a "D" 1-R, which would be a replacement for that well, since at the time -- time it was drilled we hadn't designated this pool a coal zone.

Q The original lease for "D" Well No. 1, what was its production horizon?

A I would really have to check the records here in the Commission file. It was either the Fruitland or the Pictured Cliffs.

Since this well was designated the 1-R, I would assume it was probably a Fruitland well, but I can't be certain.

Q And you wouldn't know off your head if it was a Fruitland well if it would have been completed through the Basal Coal Seam?

A I can be -- I can be really assured that it was not. The Fruitland production in this area has historically been from the upper portion of the Fruitland where the sand zones develop and this lower coal zone, as shown very clearly on Exhibit Number Fourteen, as right at the

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2 base of the Fruitland formation and there really are no sand
3 lenses within perhaps 50 or 100 feet of it up the hole which
4 would be produced, so, no, I'm fairly certain that this well
5 was - that was abandoned never did produce from this coal
6 zone.

7 Q In the naming of the Leeper "D" 1-R our
8 Aztec District Office has been changing your form reflecting
9 it's the 1-Y. I will be getting in touch with Mr. Chavez
10 and -- and your office about getting the right name on this
11 particular well.

12 A All right.

13 Q It's not that big of a deal, but anyway
14 -- okay, let's now refer to the north half of Section 4,
15 which is dedicated to your Wood Gas Com 1-A, and you show
16 three well site locations on this, also. Would you please
17 go over those?

18 A That's correct. In the north half of
19 Section 4 there is an Usselman "D" No. 1, an Usselman "C"
20 No. 1, that are shown as gas wells and I cannot tell you
21 which horizon they produce from.

22 They are either Pictured Cliffs or Fruit-
23 land wells and in either case, referring again to Exhibit
24 Number Fourteen, neither of those formations in the past
25 have ever been opened in the coal zone, specifically since
it was never known to be productive until our pool was
formed and quite the contrary, was something that was
avoided due to the fact it was coal.

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Q How about the Usselman No. 1?

A That is a location which to my knowledge has not yet been developed. Since we are on 320-acre spacing (not understood).

MR STOGNER: I have no further questions of Mr. Boyce.

Does anybody else have any questions of this witness?

If not, he may be excused.
Anything further in either one of these cases this morning?

MR. RING: We have nothing further.

MR. STOGNER: There being nothing further in these two cases, Cases 8477 and 8566 will be taken under advisement.

(Hearing concluded.)

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C E R T I F I C A T E

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I do hereby certify that the foregoing is a complete and true copy of the proceedings in the Examiner hearing of Case Nos. 8471 and 8566 heard by me on 24 April 1985.

Michael E. Stojewo, Examiner
Oil Conservation Division