

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. 11,155
)
APPLICATION OF AMOCO PRODUCTION)
COMPANY)
_____)

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

January 19th, 1995

Santa Fe, New Mexico

FILE
JAN 20 1995

This matter came on for hearing before the Oil Conservation Division on Thursday, January 19th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

STEVEN T. BRENNER, CCR
(505) 989-9317

I N D E X

January 19th, 1995
 Examiner Hearing
 CASE NO. 11,155

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* * *

A P P E A R A N C E S

FOR THE DIVISION:

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FOR THE APPLICANT:

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P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

1 WHEREUPON, the following proceedings were had at
2 9:36 a.m.:

3

4 EXAMINER STOGNER: At this time I'll call next
5 case, Number 11,155.

6

7 MR. CARROLL: Application of Amoco Production
8 Company for downhole commingling, San Juan County, New
9 Mexico.

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EXAMINER STOGNER: At this time call for
appearances.

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

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I represent Amoco Production Company in this
case, and I have two witnesses.

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Mr. Stogner, I have a request that the record
reflect that the witnesses, Gary Weitz and Bill Hawkins,
have both been sworn and testified in the previous case,
remain under oath and that their qualifications as a
petroleum landman and a petroleum engineer are accepted and
made a matter of record.

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EXAMINER STOGNER: Let the record so show, that
the two witnesses presented evidence in the previous case,
11,153, and gentlemen, I'll remind you that you still
remain under oath.

1 You may continue, Mr. Carr.

2 GARY WEITZ,

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

5 DIRECT EXAMINATION

6 BY MR. CARR:

7 Q. Mr. Weitz, are you familiar with the Application
8 filed in this case and the subject well?

9 A. Yes, I am.

10 Q. Could you briefly state for Mr. Stogner what
11 Amoco seeks to accomplish with this Application?

12 A. Yes, Amoco seeks an order from the Division
13 authorizing the downhole commingling of production from the
14 Blanco-Pictured Cliffs Pool and the Basin-Fruitland Coal
15 (Gas) Pool in Amoco's Ruth Number 1 well, which is located
16 at a standard location in both pools, 940 feet from the
17 north line, 790 feet from the east line of Section 8,
18 Township 31 North, Range 10 West, San Juan County, New
19 Mexico.

20 Q. Have you prepared -- Has there been prepared
21 under your direction certain exhibits for presentation in
22 this hearing?

23 A. Yes, there were.

24 Q. Would you refer to the exhibit book which has
25 been marked Amoco Exhibit Number 1 and identify the first

1 page in that exhibit book?

2 A. The first page is a copy of the Application that
3 was filed with the OCD.

4 Q. Let's go to the next page. Will you identify and
5 review that?

6 A. This is an acreage dedication plat for the
7 Fruitland coal formation, and the spacing will be on the
8 east half of Section 8.

9 Q. Behind that you have another C-108?

10 A. Yes, and this is an acreage dedication plat for
11 the Pictured Cliffs formation, and the spacing for that
12 will be the northeast quarter of Section 8.

13 Q. And this will be a new well; is that right?

14 A. Yes, it will be.

15 Q. Now, let's go to the next page, and would you
16 briefly review the status of the offset operators in the
17 area?

18 A. Yes, this is an offset operator plat for the
19 Pictured Cliffs formation, with the northeast quarter of
20 Section 8 being where the Ruth Number 1 well will be
21 located.

22 The offset operators, 1 being Amoco Canada -- or
23 excuse me, Amoco Production Company -- and 2 being Meridian
24 Oil; and to the north, in the southeast quarter of Section
25 5, there being no well in the offset operators there as

1 indicated.

2 Q. The next page sets forth the offset operators for
3 the Fruitland Coal formation?

4 A. Yes, that's correct.

5 Q. And again you have a number of them, because this
6 is in an area where there is little or no Fruitland
7 development?

8 A. That's correct.

9 Q. Consequently, you have a large number of owners
10 of operating rights in the offsetting tracts?

11 A. That's correct.

12 Q. You have on this exhibit indicated the standard
13 320-acre spacing unit for the Ruth well?

14 A. Yes.

15 Q. Could you go to the pages behind these plats and
16 simply summarize what those two pages show?

17 A. Yes, this is an exhibit indicating the Pictured
18 Cliffs working interest owners, royalty owners and
19 overriding royalty owners, and also the Fruitland Coal
20 formation working interest, royalty owners and overriding
21 royalty owners.

22 From this you can see that we have a difference
23 in working interest owners from the Fruitland Coal and the
24 Pictured Cliffs.

25 Also, within the royalty interest owners there's

1 a difference, and also within the overriding royalty owners
2 there is a difference.

3 Q. Mr. Weitz, has a copy of this Application been
4 provided to each of the parties identified in Exhibit 1 as
5 owning --

6 A. Yes, it was.

7 Q. -- ownership in either of the formations?

8 And is Exhibit Number 2, which is inside the back
9 cover of the exhibit book, a copy of an affidavit signed by
10 you confirming that a copy of the Application was provided
11 to each of these owners?

12 A. Yes.

13 Q. Were pages 1 through 6 of Exhibit 1, and Exhibit
14 2, either prepared by you or compiled at your direction?

15 A. Yes.

16 MR. CARR: At this time, Mr. Stogner, I move the
17 admission of pages 1 through 6 of Exhibit 1, and Exhibit 2.

18 EXAMINER STOGNER: Pages 1 through 6 of Exhibit
19 Number 1, and Exhibit Number 2, will be admitted into
20 evidence at this time.

21 MR. CARR: And that concludes my direct
22 examination of Mr. Weitz.

23 EXAMINER STOGNER: No questions.

24 MR. CARR: At this time I would call Bill
25 Hawkins.

1 one well in Section 4. There are two wells drilled to the
2 south -- or to the west of us, the Hutchinson Gas Unit well
3 in the larger, and then one well straight south, the
4 Atlantic.

5 What's happened in this area is that wells are
6 generally very low producers. I have some production
7 curves that we'll go through after this.

8 We are just falling south of the high pressure
9 fairway where we had much better production. In fact, the
10 Sammons gas well, up in the north part of Section 6, and
11 the McEwen Gas Com D 1 are wells that are in that higher-
12 pressure area and capable of producing roughly a million a
13 day.

14 The other wells south of that, including the
15 Webb, which is just also in Section 5, right north of us,
16 and the Hutchinson, are only capable of producing 200 MCFD
17 or less, maybe an average of about 100 MCFD.

18 We've taken some pressures. From the Webb Gas
19 Com Number 1 well, just to the north of us, shows the
20 initial reservoir pressure approximately 600 pounds. And
21 the Hutchinson Gas Unit B Number 1, just to the west of us
22 there, has a reservoir pressure of approximately 800 pounds
23 in the Fruitland Coal.

24 Q. Now, Mr. Hawkins, behind this plat you have five
25 production histories. Would you review those for Mr.

1 Stogner?

2 A. Yes, I've shown the surrounding Fruitland Coal
3 production that are in that low pressure area to see what
4 type of production characteristics we have. Just run
5 through these briefly.

6 Some information you'll see on each page is
7 obviously the production rates and a little decline line
8 that's drawn on there. And to the right of that, of the
9 curve, you'll see a column of numbers that shows DCLN,
10 decline percentage. This is annual decline. In this case
11 for the Webb well it shows about seven percent, roughly
12 eight percent. It shows the EURs, expected ultimate
13 recovery, in this case about .9 BCF.

14 And I think these are important when we start
15 looking at the economics of developing the Fruitland Coal
16 on a stand-alone basis.

17 Just -- If you'll let me, we'll just kind of flip
18 through each of these pages briefly.

19 I'd say that the Webb well had an initial
20 annualized rate there of approximately 150 MCFD. It had
21 some spikes a little above that, but average maybe 150
22 MCFD.

23 The Flaherty, on the next page, shows a rate of
24 roughly 150 MCFD, a decline of about eight percent a year,
25 and an expected ultimate recovery about .7 BCF.

1 If we go to the next exhibit, the Hutchinson --
2 or Hutchin Gas Unit B Number 1, the decline that's depicted
3 on here is obviously in error. It's down low. I think the
4 decline is probably going to be a little bit less than the
5 26 percent that's reported here.

6 The average rate initially was on the order of
7 about 200 MCFD. It's currently down at about 50 or 60
8 MCFD.

9 The expected ultimate recovery here is about .2
10 BCF, but I think that there's probably some work that needs
11 to be done to that well which would improve the recovery.

12 If we move to the next page, we show the Larcher
13 well, a very poor well, capable of producing only about 50
14 MCFD. We have not made an estimate there on the expected
15 ultimate recovery, based on that curve.

16 And the last Fruitland Coal well in this area is
17 the Atlantic C 216. Initially that well came on at roughly
18 100 MCFD, and it has declined since that point. It shows a
19 decline of roughly eight percent, expected ultimate
20 recovery of about .2 BCF.

21 The key things that I would bring to your
22 attention from these production plots is that these wells
23 in this area are not exhibiting any inclining production.
24 They are exhibiting a relatively conventional decline, not
25 dissimilar, I guess, from the conventional reservoirs like

1 the Pictured Cliffs.

2 Also, the wells could be characterized by
3 relatively low producing rates and relatively low expected
4 ultimate recoveries. And when we look at the economics of
5 trying to develop the Fruitland Coal, you'll see that it is
6 not an economic venture to drill a stand-alone well for the
7 Fruitland Coal in this area.

8 Q. All right, let's go to the plot -- plat behind
9 that production plot on the Pictured Cliffs formation, and
10 I'd ask you to review the information you have on this
11 exhibit.

12 A. This is again the plat showing the -- with the
13 black dot and the black arrow, the location proposed for
14 the Ruth Number 1. And it shows the existing Pictured
15 Cliffs wells surrounding this area and, as you can see,
16 it's fairly well developed in this area.

17 One point that I would bring out is that we have
18 got some initial reservoir pressures from Pictured Cliffs
19 in this area that we think would be relatively
20 representative of what we'll find in the Ruth 1 location.

21 Just directly to the west, the Boyd Gas Com C
22 Number 1 had initial reservoir pressure in the Pictured
23 Cliffs of about 600 p.s.i.

24 And the well to the south, the Boyd Gas Com 2,
25 has a reservoir pressure -- or had an initial reservoir

1 pressure of about 800, very similar to what we found in the
2 Fruitland Coal. And, as you would expect with the
3 Fruitland Coal and the Pictured Cliffs being so close
4 together, these reservoir pressures should be almost
5 identical in the Ruth well when we drill that.

6 Q. Because of that, there really is no potential for
7 cross-flow between the zones?

8 A. That's correct.

9 Q. All right. Let's go to the production history
10 behind this plat, and I'd ask you to review those for Mr.
11 Stogner.

12 A. I just selected a few of the nearby producing
13 Pictured Cliffs wells to give you an idea what they look
14 like.

15 The first one is the Boyd Gas Com C 1. This is
16 the one that had the 600 pounds initial reservoir pressure,
17 directly to the west of the Ruth. Initial rate there was
18 roughly a million a day. It's followed a relatively
19 conventional decline, 14 percent, expected ultimate
20 recovery of about 2 BCF. This would certainly be an
21 economic well to drill.

22 Following that, I've shown the Hutchin LS Number
23 1A well. This is in Section 7, just next door. This well
24 came on at an average of about 300 MCFD for the first year.
25 It's shown about a six-percent decline and has an expected

1 ultimate recovery of about .7 BCF.

2 The Boyd Gas Com B 1, Section 8, came on
3 initially at about 800 MCFD average for the first year. It
4 shows about an eight-percent decline with expected ultimate
5 recovery of 1.4 BCF.

6 And the Lucerne A 8, Section 9, this -- just
7 trying to show some of the variability. This is a PC well,
8 came on at about 100 MCFD. It had about a six-percent
9 decline, about a .6 BCF expected ultimate recovery.

10 The last two wells, the Scott 11 -- this is in
11 Section 9 -- came on again just about a million a day for
12 the first year, about a 13-percent decline, expected
13 ultimate recovery 2.4 BCF. And the Scott 10, on the last
14 curve, about an average initial rate of 400 MCFD, about a
15 12-percent decline, .7 BCF expected ultimate recovery.

16 Again, I would try to characterize these Pictured
17 Cliffs wells as being somewhat variable. The rates have
18 ranged anywhere from 100 MCFD to a million a day.

19 However, the decline rates are relatively
20 similar. Most of those are in the ten -- eight- to ten-
21 percent, maybe 12-percent range.

22 We think these wells, although there is some
23 variability, do represent an economic venture. Certainly,
24 you could drill a well here and have something uneconomic.
25 But on the other hand, there's been a few that are very

1 good Pictured Cliffs producers.

2 And I think that will have some relevance as well
3 when we look at the economics of development in this area.

4 Q. Let's go now to the next page in the exhibit
5 book, the schematic of the well. Would you review the
6 information on the schematic?

7 A. Yes, this is a wellbore diagram for the proposed
8 Ruth Number 1. Our plan right now is to drill this well
9 with 8-5/8-inch surface casing set at 250 feet and then
10 drill through the Fruitland Coal and the Pictured Cliffs
11 and set 5-1/2-inch casing at about 2974.

12 We would propose to perforate the Pictured Cliffs
13 with roughly 40 feet of perforations within the interval,
14 2745 to 2825. What that indicates is, there's a larger
15 gross interval than what we may find net pay within.

16 And the Fruitland Coal, again, approximately 40
17 feet of perforations between the top of the Fruitland Coal
18 at 2545 and the base at 2735. Again, probably find several
19 stringers of coal in there that will be perforated.

20 And we plan to produce that through a single
21 string of tubing, 2-3/8-inch tubing, to downhole commingle
22 the production from the two zones.

23 Q. Will you now go to the next page and review
24 Amoco's recommendation for how production should be
25 allocated between the zones?

1 A. ~~Yes.~~ Our plan here ~~is~~ to allocate the production
2 on this based on a fixed percentage. And analyzing the
3 characteristics of production from the nearby Pictured
4 Cliffs and Fruitland Coal zones, it appears that both of
5 these have very similar types of decline that we think
6 should be accommodated in an allocation factor, a fixed
7 percentage between the Fruitland and the Pictured Cliffs.

8 Our plan would be to perforate and fracture-
9 stimulate the Pictured Cliffs, pull it back for a period of
10 maybe a week to get it to clean up, obtain a 48-hour test
11 through a separator to determine initial production rate,
12 come in and set a bridge plug, perforate and frac the
13 Fruitland Coal, flow that back -- excuse me, pull the
14 bridge plug and flow both zones up, to clean up the
15 Fruitland Coal, and then get a 48-hour test on the combined
16 Pictured Cliffs-Fruitland Coal zone and establish an
17 allocation percentage based on the initial test percentages
18 of the Pictured Cliffs to the total, and the remainder to
19 the Fruitland.

20 Q. And you recommend that the actual allocation
21 percentages be developed with the District Office of the
22 Oil Conservation Division in Aztec?

23 A. Yes.

24 Q. Are you going to be producing any liquids?

25 A. There should be insignificant liquids in this

1 area. The Fruitland Coal has not demonstrated any water
2 production. The Pictured Cliffs is primarily dry gas in
3 this area as well, so we would not expect any kind of
4 liquid problems or incompatibilities.

5 Q. Let's go to the next page of the exhibit. Could
6 you use this to review the economics involved in this
7 proposal?

8 A. Yes, what we've shown here on the last exhibit is
9 an economic threshold to develop the Fruitland and the
10 Pictured Cliffs zones in this area.

11 The first bullet point here is what we need to
12 drill a stand-alone well, either in the Fruitland or in the
13 Pictured Cliffs. Both of these are roughly approximately
14 the same depth. The cost would be very similar, roughly
15 \$300,000.

16 We would need a reserve of about 1.2 BCF, with an
17 initial stabilized rate of about 250 MCFD, to obtain a
18 15-percent rate of return on that investment.

19 If we look at what's expected from the Fruitland,
20 based on the offset production, we would anticipate
21 reserves of about .8 BCF with initial stabilized rate of
22 about 100 MCFD, which would not meet the economic criteria
23 for developing the Fruitland on a stand-alone basis. In
24 fact, this reserve and rate expectation here would just
25 offset the completion costs, considering the fracture

1 stimulation that's needed for this well.

2 If we look at the Pictured Cliffs completion, our
3 expectations there are reserves of about 1.4 BCF, initial
4 stabilized rate of 300 MCFD, and that would be an economic
5 venture and support the drilling of the Pictured Cliffs,
6 but we would need to downhole commingle the Fruitland
7 completion with that in order to recover the reserves from
8 the Fruitland Coal.

9 Q. So, Mr. Hawkins, the proposed commingling in this
10 well would in fact result in increased recovery of
11 hydrocarbons from these formations?

12 A. That's correct.

13 Q. In your opinion, will granting the Application
14 otherwise be in the best interest of conservation, the
15 prevention of waste and the protection of correlative
16 rights?

17 A. Yes.

18 Q. Were the portions of Exhibit 1 that you've just
19 reviewed prepared by you or compiled at your direction?

20 A. Yes.

21 MR. CARR: Mr. Stogner, I offer into evidence the
22 remaining portions of Exhibit Number 1, those portions that
23 have not previously been admitted.

24 EXAMINER STOGNER: The remaining part of Exhibit
25 Number 1 will be admitted into evidence at this time.

1 MR. CARR: And that concludes my direct
2 examination of Mr. Hawkins.

3 EXAMINATION

4 BY EXAMINER STOGNER:

5 Q. Currently, Amoco doesn't have any other wells
6 downhole commingled in the two formations in this area?

7 A. No, we do not.

8 Q. You're on the threshold of that -- What do you
9 call it? The higher pressure area?

10 A. We're just south of the higher-pressured area.
11 As I stated, there's a couple of the Fruitland wells
12 offsetting us to the far north.

13 The Sammons well that's in that higher-pressured
14 area has a production rate of about a million a day,
15 pressure typically of a thousand pounds. I don't know the
16 exact pressure in that Sammons well, but I would typically
17 characterize it as roughly a thousand pounds or greater.

18 The McEwen gas well also, just north of us in
19 Section 5, is one of the fairway-type wells with a
20 production rate of about a million a day.

21 So there's a pretty dramatic dropoff between the
22 McEwen well at a thousand -- or a million a day, and the
23 Webb well just to the south of it at about 100 MCFD.

24 Q. The characteristics of these fairway-type wells,
25 are they standard -- you don't call a Basin Fruitland Coal

1 well standard -- as far as the production and a rise in the
2 production and watering out of the zone; is that the -- is
3 that the type of production that you see in the fairway?

4 A. Yes, typically you'll see a dewatering period,
5 significant water production, and an increasing gas
6 production as you get in that fairway zone.

7 As we get south of that we've got, you know,
8 significantly different producing characteristics in this
9 area.

10 Q. And you're not expecting any water production
11 from the Fruitland Coal in the Ruth well?

12 A. No, we're not.

13 EXAMINER STOGNER: I don't have any other
14 questions of this witness.

15 MR. CARR: We have no further questions of Mr.
16 Hawkins.

17 EXAMINER STOGNER: He may be excused.
18 Anything further in this case?

19 MR. CARR: Nothing further, Mr. Stogner.

20 EXAMINER STOGNER: Case 11,155 will be taken
21 under advisement.

22 (Thereupon, these proceedings were concluded at
23 10:00 a.m.)

24 * * *

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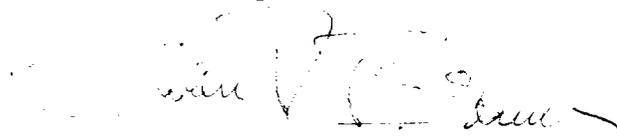
CERTIFICATE OF REPORTER

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

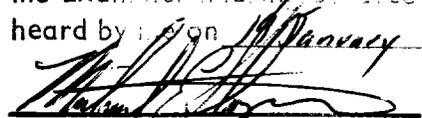
I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

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.

WITNESS MY HAND AND SEAL January 21st, 1995.


 STEVEN T. BRENNER
 CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner's office of Case No. 1155, heard by me on January 1995.

 , Examiner
 Oil Conservation Division