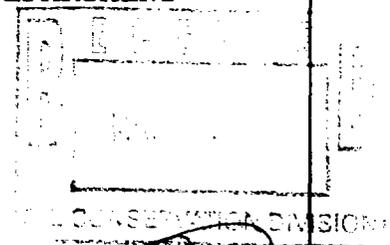


STATE OF NEW MEXICO

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:)
)
APPLICATIONS OF AMOCO PRODUCTION)
COMPANY AND RICHARDSON OPERATING)
COMPANY)
)

CASE NOS 11,243
11,244
11,246
11,247
(Consolidated)

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

April 20th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, April 20th, 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.

* * *

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April 20th, 1995
 Examiner Hearing
 CASE NOS. 11,243, 11,244, 11246 and 11,247 (Consolidated)

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A P P E A R A N C E S

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* * *

1 WHEREUPON, the following proceedings were had at
2 1:40 p.m.:

3 EXAMINER STOGNER: This hearing will come to
4 order.

5 At this time I'll call Case Number 11,243.

6 MR. CARROLL: Application of Amoco Production
7 Company for compulsory pooling, San Juan County, New
8 Mexico.

9 EXAMINER STOGNER: At this time I'll call for
10 appearances.

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

14 We represent Amoco Production Company in this
15 case.

16 I will request that this case be continued with
17 three other cases, the other Amoco case being 11,244. And
18 I believe it should also be consolidated with applications
19 filed by Richardson Operating Company, styled Case 11,247
20 and 11,246.

21 EXAMINER STOGNER: Now, you said "continued".

22 MR. CARR: Consolidated.

23 EXAMINER STOGNER: Do you mean "consolidated"?

24 MR. CARR: We could continue them. No, we'd like
25 them all consolidated.

1 EXAMINER STOGNER: Okay. Are there any
2 objections -- That's 11,243, which we just called,
3 consolidated with Amoco Case 11,244, Richardson Case 11,247
4 and Richardson Case 11,246; is that correct?

5 Are there any objections to the consolidation of
6 this?

7 MR. KELLAHIN: Mr. Examiner, for the record my
8 name is Tom Kellahin of the Santa Fe law firm of Kellahin
9 and Kellahin.

10 I'm appearing today on behalf of Richardson
11 Operating Company, and I have no objection to the
12 consolidation of these four matters together to be heard as
13 one presentation.

14 EXAMINER STOGNER: Okay. With that, I'll also
15 call the three cases, 11,244, 11,247 and 11,246 at this
16 time.

17 MR. CARROLL: Application of Amoco Production
18 Company for compulsory pooling, San Juan County, New
19 Mexico.

20 Application of Richardson Operating Company for
21 compulsory pooling, downhole commingling and an unorthodox
22 gas well location, San Juan County, New Mexico.

23 Application of Richardson Operating Company for
24 compulsory pooling and an unorthodox gas well location, San
25 Juan County, New Mexico.

1 EXAMINER STOGNER: Other than the two parties
2 involved, Amoco and Richardson, are there any other
3 appearances in any of these cases?

4 Okay, there being none, do you -- How many
5 witnesses do you have, Mr. Kellahin?

6 MR. KELLAHIN: I have four witnesses to be sworn.

7 EXAMINER STOGNER: Mr. Carr?

8 MR. CARR: I have two witnesses.

9 EXAMINER STOGNER: At this time will all the
10 witnesses please stand to be sworn?

11 (Thereupon, the witnesses were sworn.)

12 EXAMINER STOGNER: Is there any need for opening
13 statements at this time, gentlemen? Opening statements, is
14 that needed at this point?

15 MR. KELLAHIN: I don't believe so, Mr. Stogner.

16 EXAMINER STOGNER: So at that point, I guess we
17 will start with you, Mr. Carr, and your witnesses.

18 MR. CARR: Mr. Stogner, at this time I would call
19 Julie Jenkins.

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

23 DIRECT EXAMINATION

24 BY MR. CARR:

25 Q. Will you state your name for the record, please?

1 A. Julie Jenkins.

2 Q. Where do you reside?

3 A. Denver, Colorado.

4 Q. By whom are you employed?

5 A. Amoco Production Company.

6 Q. What is your current job with Amoco?

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

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

10 A. Yes, I have.

11 Q. At the time of that testimony, were your
12 credentials as a senior land negotiator accepted and made a
13 matter of record?

14 A. Yes, they were.

15 Q. Are you familiar with the Applications filed in
16 each of the four consolidated cases?

17 A. Yes, sir, I am.

18 Q. And are you familiar with the status of the lands
19 involved in each of these cases?

20 A. Yes, I am.

21 MR. CARR: Are the witness's qualifications
22 acceptable?

23 EXAMINER STOGNER: Any objections?

24 MR. KELLAHIN: No objection.

25 EXAMINER STOGNER: So qualified.

1 Q. (By Mr. Carr) Ms. Jenkins, could you briefly
2 state what Amoco seeks in the two cases it has filed with
3 the Division?

4 A. Yes, Amoco is seeking an order to pool all the
5 mineral interests from the surface to the base of the
6 Pictured Cliffs formation in Section 12 of 29 North --
7 Township 29 North, Range 13 West, in the following manner:
8 The west half forming a 320-acre gas spacing and proration
9 unit for any and all pools developed on 320-acre spacing
10 within said vertical extent, which presently includes only
11 the Basin-Fruitland Coal Gas Pool, and the southwest
12 quarter to form a standard 160-acre spacing and proration
13 unit for any and all formations and/or pools developed on a
14 160-acre spacing within said vertical extent, which
15 presently includes but is not necessarily limited to the
16 undesignated West Kutz-Fruitland Sand Pool and the
17 Undesignated West Kutz-Pictured Cliffs Pool.

18 We also would like to consider the cost of
19 drilling and completing said well and the allocation of the
20 cost thereof, as well as actual operating costs and charges
21 for supervision and the designation of Amoco as the
22 operator of the well and a charge for risk involved in
23 drilling the well.

24 We are also seeking an order pooling all mineral
25 interests from the surface to the base of the Pictured

1 Cliffs formation in the northwest of Section 12 of Township
2 29 North, Range 13 West, forming a standard 160-acre gas
3 spacing and proration unit for any and all formations in
4 pools developed on 160-acre spacing within said vertical
5 extent, which presently includes but not limited to the
6 Undesignated West Kutz-Fruitland Sand Pool and the
7 undesignated West Kutz-Pictured Cliffs Pool. The unit to
8 be dedicated is a single well, our proposed Burnham Gas Com
9 A Number 1.

10 We also would like to be considered today, the
11 cost of drilling and completing said well and the
12 allocation of the cost thereof, as well as actual operating
13 costs and charges for supervision, and the designation of
14 Amoco as the operator of the well, and a charge for risk
15 involved in drilling the well.

16 Q. Ms. Jenkins, you're familiar also with the
17 Applications filed by Richardson Operating Company, are you
18 not?

19 A. Yes, I am.

20 Q. And are those Applications, to your
21 understanding, Applications to force-pool the same acreage
22 and designate Richardson as the operator of those wells?

23 A. Yes, that's my understanding.

24 Q. Have you prepared exhibits for presentation here
25 today?

1 A. Yes, I have.

2 Q. And are these exhibits included in the exhibit
3 booklet that has been distributed for Amoco?

4 A. Yes.

5 Q. Let's go to that booklet, and I'd ask you to
6 first just identify the document behind the first tab in
7 that booklet.

8 A. Yes, the first page is simply a copy of the
9 Application that was submitted to the Director of the New
10 Mexico Oil Conservation Division from J.W. Hawkins,
11 describing the Application.

12 Q. Okay. And the second page behind that first tab
13 is what?

14 A. Is the list of names and addresses of the
15 parties, the working interest in the Burnham Gas Com A
16 Number 1, to which a copy of the Application was sent
17 certified.

18 Q. And that includes Richardson Production Company;
19 is that right?

20 A. Yes, it does.

21 Q. Behind that there is another page, "Addressee
22 List". What is that?

23 A. That's an addressee list showing the names and
24 addresses of the working interest owners within the
25 drilling and spacing unit for our proposed Burnham Gas Com

1 B Number 1.

2 Q. And again, that was sent to Richardson Production
3 Company?

4 A. That is correct.

5 Q. And behind that you have copies of a certificate
6 showing that this Application was provided to these
7 individuals by certified mail, return receipt requested?

8 A. That is correct.

9 Q. Let's go to the tab identified as "Ownership" in
10 the Amoco booklet. Will you refer to that and then go to
11 the first document behind that tab, identify that and
12 review it for the Examiner?

13 A. Okay. The first page is simply a copy of a Form
14 C-102, which is State of New Mexico, Oil Conservation
15 Division, Well Location and Acreage Dedication Plat,
16 showing the proposed location of Amoco's Burnham Gas Com A
17 Number 1, and the proposed spacing unit for that well,
18 being the northwest quarter of Section 12.

19 Q. Does Richardson also propose a well on this 40-
20 acre Pictured Cliff spacing unit?

21 A. Yes, they do.

22 Q. And what is the location of the well they are
23 proposing?

24 A. It's my understanding they are proposing a well
25 to be located within 200 feet of 1470 feet from the north

1 line and 1500 feet from the west line of Section 12.

2 Q. So that could essentially be at the same location
3 or close thereto, to the one you are proposing?

4 A. That's correct.

5 Q. At the present time, does Amoco operate the wells
6 in the northwest quarter of Section 12?

7 A. Yes, sir, they do.

8 Q. Does the location being proposed by Richardson
9 fall in close proximity to currently operated Amoco wells?

10 A. Yes, it does.

11 Q. Would in fact the Richardson proposal be possibly
12 located on the same well pad as existing Amoco Dakota
13 wells?

14 A. It appears that way, yes.

15 Q. Let's go to the next page in this exhibit. Would
16 you identify that, please?

17 A. Yes, this is a copy of the Exhibit A which was
18 attached to the proposed Amoco -- the operating agreement
19 that Amoco proposed to use to govern operations for the
20 Burnham Gas Com A Number 1, and it sets forth the names and
21 addresses of all working interest owners within that
22 spacing unit and their respective working interests
23 therein.

24 Q. So we're talking here about just the northwest
25 quarter of Section 12 in the Pictured Cliffs?

1 A. That's correct.

2 Q. And what does Amoco -- How much of the working
3 interest ownership does Amoco own in that 160-acre tract?

4 A. Amoco owns 83.38125-percent working interest.

5 Q. Do you know what Richardson owns at this time in
6 this 160-acre tract?

7 A. We -- At the time we did title, we showed them to
8 own 2.76979-percent working interest in the tract.

9 Q. Is it possible that they have acquired additional
10 interests since this exhibit was prepared?

11 A. Sure.

12 Q. Have other interest owners shown on this exhibit
13 agreed to participate with Amoco?

14 A. Yes, the -- Manon Markham McMullen has signed an
15 operating agreement and AFE for this well.

16 Q. And that's the only other interest owner shown on
17 this Exhibit A that has signed the AFE or agreed to
18 participate in this Pictured Cliffs well with you?

19 A. That is correct.

20 Q. Let's go to the next page. Could you identify
21 that, please?

22 A. Yes, this is State of New Mexico, Oil
23 Conservation Division, Form C-102, Well Location and
24 Acreage Dedication Plat, showing the proposed location of
25 Amoco's Burnham Gas Com B Number 1, and also depicting the

1 spacing units for the Pictured Cliffs, being the southwest
2 quarter of Section 12, and the spacing unit for the
3 Fruitland Coal formation, being the west half of Section
4 12.

5 Q. This well is to be completed in both those
6 formations?

7 A. That is correct.

8 Q. Has Richardson also filed an application seeking
9 to drill a well in the southwest of Section 12 to be
10 completed in both formations?

11 A. Yes, they have.

12 Q. What is the location that is being proposed by
13 Richardson?

14 A. The proposed location is in 200 feet of 870 feet
15 from the south line and 1180 feet from the west line of
16 Section 12.

17 Q. So again, this could be essentially at the same
18 location being proposed by Amoco?

19 A. Yes.

20 Q. And again, could this well at that location be on
21 an existing well pad on which Amoco currently operates a
22 Dakota well in the southwest of Section 12?

23 A. Yes.

24 Q. Let's go to the next page. It's marked Exhibit

25 A. Would you identify this, please?

1 A. Yes, this is a copy of the Exhibit A that was
2 attached to the operating agreement that Amoco sent to all
3 working interest owners for our proposed Burnham Gas Com B
4 Number 1, and it shows the names and addresses of all the
5 working interest owners in the Pictured Cliffs formation,
6 being the southwest quarter unit, and their ownership in
7 the Fruitland Coal, the west half of Section 12.

8 Q. What does Amoco own in the southwest quarter?

9 A. Fifty percent.

10 Q. And do you know what Richardson owns?

11 A. Our records at the time they were checked showed
12 them to own 8.33 percent.

13 Q. And again, that number may have increased and you
14 wouldn't know it?

15 A. Yes.

16 Q. What about a west-half unit? What is Amoco's
17 ownership in a west-half spacing unit?

18 A. 66.69062 percent.

19 Q. And the last figure you had on the Richardson
20 ownership in a west-half unit was what?

21 A. 5.55249 percent.

22 Q. Now, in the cases that have been filed by Amoco,
23 is Amoco seeking an order pooling all of the interests as
24 shown on the two Exhibit A's that have just been reviewed
25 by you?

1 A. Yes.

2 Q. Let's go to the portion of this exhibit that is
3 behind the tab marked "Correspondence". Could you identify
4 that, please?

5 A. Yes, the first page is -- shows just relevant
6 oral and written communications between Amoco and other
7 working interest owners, regarding our proposed Burnham Gas
8 Com A Number 1.

9 Q. And was this exhibit prepared by you?

10 A. Yes.

11 Q. This summary?

12 A. Yes, sir.

13 Q. When was the first contact between the parties
14 concerning the drilling of a well in the northwest quarter
15 of Section 12?

16 A. Well, Amoco sent out its initial well proposal by
17 a letter dated February 14th, 1995.

18 Q. And is it possible that the parties could have
19 been in negotiation prior to this time, or is it not?

20 A. Sure.

21 Q. When did you first start working on this area
22 in -- portion of the San Juan Basin?

23 A. July of 1993.

24 Q. And if there had been communications between the
25 parties prior to July of 1993, you wouldn't be aware of

1 those?

2 A. That's correct.

3 Q. Are you aware of any proposal for farm out
4 between the parties of the acreage involved in this case?

5 A. Yes, I recall Richardson requesting a farmout of
6 Amoco's acreage in this section. I think it may have been
7 late 1993.

8 Q. And were you involved with that?

9 A. Yes.

10 Q. And what was Amoco's response to the 1993 farmout
11 request?

12 A. Amoco declined their request.

13 Q. This listing of contacts between the parties
14 concerning the development of the northwest quarter of
15 Section 12, this includes some written correspondence?

16 A. Yes, sir.

17 Q. And it also includes some telephone
18 conversations?

19 A. That's correct.

20 Q. If you would -- I'd like to direct your attention
21 to the entry dated March 7, 1995.

22 A. Yes.

23 Q. That indicates that you had contacted Richardson
24 and requested a copy of the operating agreement?

25 A. That they proposed on their well.

1 Q. Yes.

2 A. Yes.

3 Q. Have you ever received that?

4 A. No, sir.

5 Q. Is this, to the best of your knowledge, a
6 complete listing of the contacts between the parties
7 concerning the development of the northwest quarter of 12?

8 A. Yes, sir, it is.

9 Q. All right, let's go to the document behind that
10 page. Could you tell me what that is, please?

11 A. Yes, it's just a copy of my letter to the working
12 interest owners, proposing our Burnham Gas Com A Number 1.

13 Q. And that's the February 14, 1995, letter?

14 A. Right.

15 Q. And behind that -- ?

16 A. -- is just a list of the names and addresses of
17 the working interest owners that this letter was sent to.

18 Q. And again, this shows that the letter was sent to
19 Richardson Production Company?

20 A. Yes, sir.

21 Q. The next document in that page is a summary
22 sheet, again. Was this prepared by you?

23 A. Yes, sir.

24 Q. And basically what is this?

25 A. It's simply a time line of, again, relevant oral

1 and written communications between Amoco and any other
2 working interest owners within the spacing unit.

3 Q. Other than the general testimony that you
4 previously presented concerning a farmout agreement, since
5 you've been working on this area, is this a complete
6 listing of the contacts between the parties concerning the
7 drilling of wells on this acreage?

8 A. Yes.

9 Q. Behind that, again, is a copy of the first letter
10 that was sent?

11 A. That's correct.

12 Q. And the last -- the next page is what?

13 A. Is the names and addresses of the parties that
14 this February 14th, 1995, letter was sent to.

15 Q. And again, this letter shows it was sent to
16 Richardson Production Company?

17 A. That's correct.

18 Q. Let's go to the next letter, dated March 13,
19 1995.

20 A. Okay.

21 Q. Could you tell me what this is?

22 A. Well, Amoco's original well proposal -- in my
23 cover letter dated February 14th, 1995 -- was to drill the
24 Burnham Gas Com B Number 1 in the southwest corner of
25 Section 12 as a Pictured Cliffs well only.

1 After receiving a proposal from Richardson, an
2 evaluation showed that probably the most effective way to
3 drill and complete this well would be to complete it in the
4 Pictured Cliffs and the Fruitland Coal formation and
5 downhole commingle it.

6 So the March 13th letter is a resubmission of our
7 proposal to amend it to include a completion in the
8 Fruitland Coal formation.

9 Q. And that was then sent to Richardson, was it not?

10 A. Yes, sir.

11 Q. Ms. Talbot [Jenkins], is the documentation you
12 have just reviewed, to the best of your knowledge, a
13 complete summary of the efforts which have been made to
14 reach voluntary agreement with Richardson and others for
15 the development of this acreage?

16 A. Yes, sir, it is.

17 Q. If this Application is granted, does Amoco
18 Production Company request to be designated the operator of
19 each of the wells involved in these consolidated cases?

20 A. Yes, they do.

21 Q. Were the portions of Amoco Exhibit 1, the exhibit
22 booklet which you have just reviewed -- been prepared by
23 you or compiled under your direction?

24 A. Yes, they have.

25 MR. CARR: Mr. Stogner, at this time we move the

1 admission of the portions of Amoco's Exhibit 1 behind tabs
2 "Application", "Ownership" and "Correspondence", and we
3 move their admission into evidence.

4 EXAMINER STOGNER: That portion of Exhibit 1 --
5 Are there any objections before --

6 MR. KELLAHIN: No objection.

7 EXAMINER STOGNER: That portion of the exhibit
8 under "Application", "Ownership" and "Correspondence" will
9 be admitted into evidence at this time.

10 MR. CARR: And that concludes my direct
11 examination of Ms. Jenkins.

12 EXAMINER STOGNER: Thank you, Mr. Carr.

13 Mr. Kellahin, your witness.

14 CROSS-EXAMINATION

15 BY MR. KELLAHIN:

16 Q. Ms. Jenkins, if you'll turn with me to your
17 exhibit book and look behind the "Ownership" tab, and
18 behind the first plat, when we look at your division of
19 interest for the northwest quarter of 12, you've testified
20 that Manon McMullen has committed on a voluntary basis that
21 percentage to Amoco?

22 A. Yes, sir.

23 Q. When did that occur?

24 A. I'm not exactly sure the date we received it, but
25 we received a signed copy of an AFE, an operating

1 agreement, from Manon Markham McMullen.

2 Q. Was that before or after the February 14th letter
3 that you sent to those parties?

4 A. After.

5 Q. All right. Was it before or after the filing of
6 the compulsory pooling Application by Amoco for this well?

7 A. I don't recall exactly when we received it. I
8 think it may have been -- Actually, I don't recall if it
9 was before or after.

10 Q. Other than that interest, have you been able to
11 persuade any of these other interest owners to commit their
12 interest to an Amoco-operated well for this spacing unit?

13 A. No, sir.

14 Q. When we look at your percentage for the Amoco
15 interest, does that represent a leasehold position you had
16 in this tract?

17 A. Yes, sir.

18 Q. All right. It doesn't represent the
19 consolidation of interests pursuant to a well proposal,
20 then?

21 A. Right.

22 Q. This is lease acquisition?

23 A. That's correct.

24 Q. So when you started making this well proposal,
25 you already had that percentage?

1 A. That's correct.

2 Q. Okay. If you'll turn two more pages and if
3 you'll look at the Exhibit A that's appended to the
4 division of interest you have provided for the second well,
5 which is the PC-Fruitland Coal combination --

6 A. Right.

7 Q. -- I notice that Manon McMullen has got an
8 interest in this particular well and in this spacing
9 configuration, but you did not indicate whether that party
10 had agreed to participate on a voluntary basis. What is
11 the status?

12 A. I didn't indicate it because she has not
13 committed as to this tract.

14 Q. So as to this spreadsheet for this well and these
15 two spacing units, none of these interest owners that you
16 solicited have agreed to participate with Amoco?

17 A. That is correct.

18 Q. Am I correct in understanding that the basic
19 Amoco percentage is a leasehold-derived percentage, and it
20 doesn't represent a consolidation of interest based upon a
21 well proposal by Amoco?

22 A. That's correct.

23 Q. Okay. When we turn to the correspondence, your
24 well proposals are the February 14th letters?

25 A. Yes, sir.

1 Q. This looks to be a file copy of a letter. Did
2 you retain a copy of the letter you actually sent that
3 shows the Amoco letterhead?

4 A. No, I did not.

5 Q. To the best of your knowledge, this letter
6 correctly conforms to the letter you had printed and issued
7 and sent?

8 A. Absolutely.

9 Q. Okay. When you look at the contents of the
10 letter, was it on your own information and belief that you
11 advised these interest owners in the last paragraph that,
12 "Because we must drill this well as a 'package' with five
13 other PC wells in order for it to be economic, we will
14 proceed to initiate force-pooling measures to ensure the
15 timely consolidation of all interests"?

16 A. What was your question?

17 Q. Did that come from you?

18 A. Yes.

19 Q. Upon what inform- --

20 A. I wrote that.

21 Q. Ma'am?

22 A. I wrote that.

23 Q. Yes, ma'am. And did you come to that conclusion
24 on your own?

25 A. The fact that we needed to drill all of them to

1 be economic came from the engineer.

2 Q. Which engineer?

3 A. Greg Grotke.

4 Q. How do you spell his last name? It's Grotke?

5 A. G-r-o-t-k-e.

6 Q. And he pronounces it -- ?

7 A. Grotke.

8 Q. Grotke. Is Mr. Grotke the engineer that you
9 dealt with in terms of developing these two wells plus the
10 other five that made the package?

11 A. Yes, sir.

12 Q. And was it based upon his representations to you
13 about packaging these five wells together to make them
14 economic, that you made this statement in this letter?

15 A. Yes.

16 Q. The AFE that's attached to this letter --

17 A. Yes.

18 Q. -- does that represent your work product?

19 A. No, sir, Mr. Grotke's.

20 Q. Mr. Grotke, in fact, generated that AFE, did he
21 not?

22 A. That's correct.

23 Q. Is that something that he does within Amoco, to
24 generate AFEs for this type of prospect?

25 A. Yes.

1 Q. At the time he submitted these two AFEs to you,
2 each AFE proposed a single PC-completed well, did he not?

3 A. That's correct.

4 Q. What is the current status of the other three PC
5 wells that are in Mr. Grotke's package?

6 A. We are still -- Some of them, the interests have
7 been consolidated; some of them, they haven't.

8 Q. Are any of the other three subject to compulsory
9 pooling applications before the Division at this point?

10 A. One is, the one that we've just continued today.

11 Q. The 11,245 case, I think it was?

12 A. Yes.

13 Q. All right. That well in Section 14 is part of
14 this package?

15 A. Yes.

16 Q. All right. What is the status of the other two
17 proposals?

18 A. The other two wells, I think we own a 100-percent
19 interest in one of them, and another one we are negotiating
20 a purchase of an interest.

21 Q. Is Mr. Grotke still involved in this project?

22 A. Yes.

23 Q. When we look at the first part of the display
24 book and look behind the tab that says "Application" --

25 A. Uh-huh.

1 Q. -- there is Mr. Hawkins' -- or a letter that is
2 over Mr. Hawkins' signature, dated March 9th. Do you see
3 that?

4 A. Yes, sir.

5 Q. Between March 14th and March 9th, did you have
6 any written correspondence to Richardson with regards to
7 either of these two well proposals?

8 A. Between March 14th and March 9th?

9 Q. I'm sorry, I misspoke. It's April 14th, the date
10 of your first proposal.

11 A. February 14th?

12 Q. I'm still not getting it correct. The February
13 14th date --

14 A. Okay.

15 Q. -- and the March 9th date, between those two
16 dates did you have any written correspondence with
17 Richardson about your well proposals?

18 A. Other than the February 14th letter?

19 Q. Yes, ma'am.

20 A. We had no other written communication, as I
21 remember.

22 Q. Okay.

23 A. Oh, I take that back.

24 Q. Okay.

25 A. We did have a letter to Richardson. I don't

1 recall the date of it.

2 Q. Is that contained in this package?

3 A. No.

4 Q. Would that be a letter over your signature on
5 March 7th of 1995?

6 A. That sounds right.

7 Q. All right. Let me show you --

8 A. Okay.

9 Q. -- this document.

10 All right, have you seen the document?

11 A. Yes.

12 Q. Do you recognize that document?

13 A. Yes, I do.

14 Q. What does it purport to represent?

15 A. It tells Richardson that we did not have any
16 interest in any type of sale or exchange of any interest at
17 this time.

18 Q. Is that your signature? Is that --

19 A. Yes, sir.

20 Q. -- the letter you sent?

21 A. Yes, sir.

22 MR. KELLAHIN: Mr. Examiner, this letter is not
23 yet marked as an exhibit.

24 To keep the record straight, with Mr. Carr's
25 concurrence, it is contained in the package of exhibits

1 that our land person will testify to, and if we may simply
2 document it by its date I think the record might stay
3 straight if we do that.

4 EXAMINER STOGNER: Okay, why don't we do that?
5 You are planning on offering this as an exhibit later on?

6 MR. KELLAHIN: Yes, sir, but I want to show it to
7 you now and discuss it with Ms. Jenkins.

8 EXAMINER STOGNER: Is this my copy?

9 MR. KELLAHIN: Yes, sir.

10 EXAMINER STOGNER: Thank you.

11 Q. (By Mr. Kellahin) All right. Other than the
12 March 7th letter that I've just shown you, there was no
13 other written correspondence from you to Richardson within
14 the time frame that I've described?

15 A. Right.

16 Q. You testified in response to Mr. Carr that you
17 had a number of these photocopies of the green cards,
18 showing that these various parties had been sent notice of
19 Mr. Hawkins' application for compulsory pooling?

20 A. Yes, sir.

21 Q. Is that something that you take care of?

22 A. No, sir, Mr. Hawkins took care of those.

23 Q. Do you know on what particular date the March 9th
24 letter was sent to these other interest owners?

25 A. What day the letter was mailed?

1 Q. Yes, ma'am.

2 A. I don't know that.

3 Q. The two well proposals that you have sent on
4 February 14th, one was for a PC-alone well in the northwest
5 quarter of 12, right?

6 A. Yes.

7 Q. And the second one you proposed was a PC-stand-
8 alone well in the southwest quarter of 12; is that not
9 correct?

10 A. That's correct.

11 Q. When you look at Mr. Hawkins' application, he's
12 applied for compulsory pooling of a coal gas spacing unit
13 in the west half of Section 12 for a well that you had not
14 yet proposed; is that not true?

15 A. Not for a well that we had not proposed, but for
16 a completion in a well that we had proposed in a second
17 formation.

18 Q. And in a spacing unit you have not yet proposed?

19 A. That's correct.

20 Q. Did Mr. Grotke come to you originally with his
21 proposals on the AFEs and the prospect for this package of
22 five wells?

23 A. Yes.

24 Q. And they were individual PC-alone wells, were
25 they not?

1 A. Yes.

2 Q. Did you have any conversations or discussions
3 with Mr. Grotke about the inclusion of the coal gas in
4 either one of these wells?

5 A. Yes, I did.

6 Q. All right. And is that a basis for the change,
7 then, for adding the coal in the well in the southwest
8 quarter of 12?

9 A. I'm not sure what you're asking.

10 Actually, I think the basis of the change was,
11 after we received Richardson's AFE we thought that's
12 probably a good idea, so we decided that it would be best
13 to complete it in both formations.

14 Q. The idea, then, for taking one of these wells and
15 commingling it for a coal gas well with the PC generated
16 with Richardson, did it not?

17 A. I don't know what you mean when you say
18 "generated". We contemplated doing it earlier, before
19 Richardson did.

20 Q. Richardson formally proposed it to you first?

21 A. Yes.

22 Q. Okay. And in response to that proposal, Mr.
23 Grotke concurred and altered his proposal?

24 A. Yes.

25 Q. When you received Richardson's proposal for these

1 wells, did they come to you?

2 A. Yes, via fax.

3 Q. Okay. And as part of that process, then, how did
4 you disseminate that information in order to generate a
5 response from your company?

6 A. I took it down to Mr. Grotke to review.

7 Q. All right. Again, this is his project as an
8 engineer, and he got that information?

9 A. That's correct.

10 Q. To what extent is Mr. Hawkins involved in any of
11 this at this point?

12 A. At this point we may have given him information,
13 but as far as evaluation, he's not involved.

14 Q. Okay. When we look at your February 14th letter,
15 apart from saying that you'll proceed to initiate
16 compulsory pooling, did you provide these parties with any
17 indication of the time frame in which they would have to
18 respond to your proposal?

19 A. No.

20 Q. Did you discuss with Mr. Hawkins when to initiate
21 compulsory pooling?

22 A. At the time the letter was sent out, no.

23 Q. On the March 9th?

24 A. His March 9th letter?

25 Q. Yes, ma'am.

1 A. Yeah, but I'm saying at the time that the
2 original proposal went out, we had not decided -- we were
3 going to wait till the appropriate amount of time had
4 passed.

5 Q. In response to Richardson's proposal for these
6 two wells, what conclusion did Mr. Grotke come to?

7 A. Ask that again.

8 Q. Yes, ma'am. The proposals from Richardson to
9 Amoco --

10 A. Uh-huh.

11 Q. -- came through you --

12 A. Right.

13 Q. -- were disseminated to him?

14 A. Yes.

15 Q. What, if any, action did he communicate to you in
16 response to their request?

17 A. The initial reaction is to go through the cost
18 and see, you know, how they compared to ours and evaluate
19 that.

20 Q. Other than a cost comparison analysis, did you
21 have any other discussion with Mr. Grotke about any other
22 factor or component in his decision about participating
23 with Richardson or not?

24 A. Well, since we initially proposed the well and
25 because we had a majority interest, that, to us, was a

1 factor in determining whether or not we wished to proceed
2 to try to be operator or if Richardson should be operator.

3 Q. Okay. The Richardson AFEs were lower than the
4 Amoco AFEs, were they not?

5 A. Yes.

6 Q. Okay. Other than you having a larger interest
7 and having proposed the well first, were there any other
8 factors in your decision about rejecting Richardson as the
9 operator?

10 A. Well, we wanted to compare the AFEs, and even
11 though the bottom lines were different -- Amoco's was
12 higher -- we felt there were some costs that may not have
13 been built into their AFEs, that were necessary to do the
14 project that they were proposing.

15 Q. Are you speaking from your own examination or
16 from information given you by other Amoco employees?

17 A. Information given to me by other Amoco employees.

18 Q. And who would that employee be?

19 A. Greg Grotke.

20 Q. All right, no one else?

21 A. No.

22 Q. I have discovered another copy, Ms. Jenkins, of
23 the letter I showed the Examiner. It's the March 7th
24 letter.

25 A. Uh-huh.

1 Q. It states on the bottom of that letter in the
2 last paragraph that you represent that you're going to
3 respond to their proposal, does it not?

4 A. Yes.

5 Q. What does it say?

6 A. It says, "With respect to the parties' respective
7 AFEs, Amoco will also advise Richardson in writing in the
8 near future with regard to Amoco's position."

9 And you never did that, did you?

10 A. Yes, we did.

11 Q. Where's the letter that responds to that?

12 A. We sent them a certified copy of our application
13 from -- letter dated March 9th, from Bill Hawkins.

14 Q. The response was an application for compulsory
15 pooling?

16 A. Yes.

17 MR. KELLAHIN: No further questions.

18 EXAMINER STOGNER: Mr. Carr, any redirect?

19 MR. CARR: I have no questions, no redirect.

20 EXAMINER STOGNER: While he's reviewing that, I
21 do have a couple of questions.

22 EXAMINATION

23 BY EXAMINER STOGNER:

24 Q. On the Exhibit A's, the interest parties --

25 A. Yes.

1 Q. -- you said that McMullen was the only one that
2 had a signed partner- -- or a signed instrument at this
3 point?

4 A. Right, on one of the wells.

5 Q. On one of the wells.

6 A. Right.

7 Q. Has there been any discussion with any of the
8 others if you're expecting a signed one in the near future,
9 or have they verbally committed to it yet?

10 A. There has been discussions with other parties,
11 but no verbal commitments to join.

12 We have had discussions with Kerr-McGee, who
13 initially told us that they would farm out to Amoco, and I
14 asked him if he was aware -- I know he got it, Kerr-McGee
15 got a certified copy of the compulsory pooling
16 application -- if he was aware that we were going through
17 that.

18 And he said -- he said, No, I wasn't -- or he
19 was, but he didn't even really even talk about that.

20 And I said, Well, do you wish to wait to see who
21 becomes designated operator before you determine who you
22 want to farm the interest out to?

23 And he said yes.

24 Q. And that is the interest in the west half and
25 southwest quarter, the Kerr-McGee that you're referring to?

1 A. Yes. And if you look -- they also -- Let's see.
2 That's correct.

3 Q. But they don't have interest in the northwest
4 quarter of that section?

5 A. I think they -- Yes, they do. See, the interest
6 of Flag-Redfern Oil Company?

7 Q. Yes.

8 A. They acquired that interest. At the time that
9 exhibit was prepared, there was not an assignment of record
10 from Flag-Redfern to Kerr-McGee.

11 In my discussions with Kerr-McGee on the other
12 section, he did tell me that they did own that Flag-Redfern
13 interest and sent me a copy of the assignment, and just
14 this copy of the Exhibit A has not been revised to reflect
15 that.

16 Q. Are there any other interests that have had
17 similar exchanges or acquisitions or --

18 A. We did have a discussion with Rod -- it says
19 Robert Allen Markham, and after discussions with him I
20 believe his name is Roderick Allen Markham. Initially he
21 had discussions with Mr. Grotke and with me. And his
22 discussion with me was, Well, what terms would Amoco take a
23 farmout on?

24 And I had not gotten back with him on that
25 because of all the other circumstances, not knowing who

1 would eventually be operator and drill the well.

2 EXAMINER STOGNER: Okay, I have no other
3 questions of this witness.

4 Mr. Carroll, do you?

5 MR. CARROLL: Yes, Mr. Examiner.

6 EXAMINATION

7 BY MR. CARROLL:

8 Q. Ms. Jenkins, this March 7th, 1995, letter, with
9 whom did you consult when you replied to Richardson that
10 Amoco has no interest in any type of sale or exchange?

11 A. This was simply a letter to -- If you'll look
12 over at our correspondence, under the "Correspondence" on
13 the exhibit, you'll see February 23rd, 1995, after
14 Richardson received Amoco's AFE, Cathleen Colby called Mr.
15 Grotke, and according to Mr. Grotke, that Cathleen
16 expressed Richardson's opinion that our costs were too high
17 and asked if we would be willing to trade some of our
18 acreage in this spacing unit for some other acreage in the
19 area.

20 And Mr. Grotke said he would take that under
21 consideration. And we looked at some other possi- -- some
22 areas.

23 And this letter is to respond to her that we are
24 not interested in any trade of acreage, not that we were
25 not interested in any negotiations of an operating

1 agreement for the drilling of this well.

2 Q. So you and Mr. Grotke, or Mr. Grotke, determined
3 that Amoco had no interest?

4 A. In a trade of --

5 Q. In a sale or exchange?

6 A. -- this acreage -- or sale, whatever, that we
7 were not willing -- we didn't want to do any trade. We
8 weren't saying that we didn't want to negotiate in good
9 faith a joint operating agreement for Amoco to operate the
10 well.

11 Q. All right. I guess I don't understand here.
12 According to this letter it appears, from what you just
13 said, that you and Mr. Grotke had the authority to turn
14 down an offer from Richardson but you didn't have the
15 authority to accept on behalf of Amoco.

16 A. I'm not sure what you're asking.

17 Q. In the first sentence, in the first paragraph --

18 A. Uh-huh.

19 Q. -- you turned down Richardson's offer for a sale
20 or exchange --

21 A. Uh-huh.

22 Q. -- and then in the last sentence of that
23 paragraph, you say if there's more discussions that follow
24 any offer, acceptance by Amoco will have to be by somebody
25 other than you or Mr. Grotke.

1 A. Uh-huh. Yes, we have the authority to decline
2 any trade, but we don't have the authority to bind the
3 company to some sort of trade.

4 Q. And who would be the person above you that would
5 have the authority to bind the company?

6 A. An attorney-in-fact.

7 Q. And who would that be?

8 A. We have several.

9 Q. Is Mr. Hawkins an attorney-in-fact?

10 A. No, sir.

11 Q. Who would be naturally the person you would ask
12 to bind the company?

13 A. My immediate supervisor, John Hashe, who's a land
14 manager, is an attorney-in-fact for Amoco.

15 Q. So I get this clear again, you have the authority
16 to turn down offers from other companies on behalf of
17 Amoco, but you don't have authority to accept offers from
18 other companies?

19 A. Yes.

20 MR. CARROLL: Okay, thanks. That's all I have.

21 EXAMINER STOGNER: Any other questions?

22 You may be excused.

23 Mr. Carr?

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

25 EXAMINER STOGNER: Mr. Carr?

1 Q. (By Mr. Carr) Mr. Hawkins, have you prepared
2 certain exhibits for presentation here today?

3 A. Yes, I have.

4 Q. Let's go to the material contained behind the tab
5 "Well Cost" in Amoco's Exhibit Number 1.

6 A. Okay.

7 Q. Would you identify the first document behind this
8 tab?

9 A. Yes, the first document behind the tab "Well
10 Cost" is the AFE that Amoco submitted on the Burnham Gas
11 Com A Well Number 1. It's for a Pictured Cliffs completion
12 in the -- I believe it's the northwest quarter of Section
13 12.

14 Q. And this is the AFE that was submitted to other
15 interest owners in the acreage?

16 A. That's correct. The AFE here just at the bottom
17 of the column of numbers shows an estimated dryhole cost of
18 \$90,160, and a gross completion cost of \$216,260.

19 Q. And this, as it indicates, was prepared by Greg
20 Grotke?

21 A. That's correct.

22 Q. Who is Mr. Grotke?

23 A. Greg Grotke is a petroleum engineer with Amoco,
24 as well. His responsibility is primarily to assist in the
25 drilling programs that we're putting forth in 1995.

1 Q. And do you work with Mr. Grotke on a regular
2 basis?

3 A. Yes, I do.

4 Q. And in what respect?

5 A. Generally, I attend the drilling meetings that
6 are discussing our drilling plans and provide consultation
7 on regulatory affairs, when we may need some special type
8 of relief.

9 Q. Let's go to the next document behind this tab.
10 What is this?

11 A. Again, this is an AFE for the Burnham Gas Com B
12 Well Number 1. It's identical to the A Number 1. It's a
13 Pictured Cliffs well to be located in the southwest quarter
14 of the section.

15 Q. And these totals are identical to the totals on
16 the previous AFE; is that correct?

17 A. Yes, they are.

18 Q. Was this AFE submitted to other interest owners
19 in the affected acreage?

20 A. Yes, it was.

21 Q. This AFE was for only a Pictured Cliffs
22 completion in the southwest quarter of Section 12, was it
23 not?

24 A. That's correct.

25 Q. All right. Now, let's go to the next AFE, and

1 this one, I believe, is in two parts, is it not?

2 A. Yes, it is. This is a -- first page of the AFE,
3 just followed by the second page.

4 The first page is again for the Burnham Gas Com B
5 Well Number 1. That's the well in the southwest quarter.

6 When Amoco decided to resubmit an AFE to amend
7 our proposal to include the Fruitland, we broke this AFE
8 into two parts. The first part would be the portion that
9 would be charged to the PC owners, that being \$45,080 for
10 gross dryhole and \$127,380 for completion.

11 If we turn to the next page, we'll get the
12 Fruitland portion of that AFE: gross dryhole \$45,080, and
13 gross completion \$133,380.

14 So you would need to total those two up to get a
15 total cost for the well.

16 Q. And was this AFE, that reflected completing the
17 well in both the Fruitland and Pictured Cliffs, also
18 submitted to those interest owners who are -- those
19 interest owners in the affected acreage?

20 A. Yes.

21 Q. Now, let's move to the next page.

22 A. Okay.

23 Q. What is this?

24 A. This page is a comparison of the AFEs that were
25 submitted by Richardson and Amoco for the well to be

1 located in the northwest quarter of Section 12. It's the
2 Pictured Cliffs well, and we have named that well --

3 MR. KELLAHIN: I have an objection here, Mr.
4 Examiner.

5 THE WITNESS: -- the Burnham Gas Com A 1.

6 EXAMINER STOGNER: Yes?

7 MR. CARR: Just a minute.

8 MR. KELLAHIN: Mr. Examiner, I object. There's
9 no proper foundation laid for this witness to qualify as an
10 expert in comparing AFEs. And in fact, Ms. Jenkins just
11 testified it was Mr. Grotke who had made this analysis and
12 had come to the conclusion.

13 So there's no foundation yet laid that Mr.
14 Hawkins has the requisite expertise to reach conclusions
15 about comparisons.

16 EXAMINER STOGNER: Mr. Carr?

17 MR. CARR: I would note, Mr. Stogner, that we
18 have qualified Mr. Hawkins in the past as an expert in
19 petroleum engineering.

20 I'd be happy to ask him some questions that
21 relate to his experience with AFEs, if that would satisfy
22 Mr. Kellahin, but he didn't object when we qualified him
23 initially. And I'll be happy to have Mr. Hawkins testify
24 that he works with them regularly, that he evaluates them
25 as part of his daily work and that he has looked at the

1 AFES for both of the wells that are involved, if that is
2 what would be desired.

3 EXAMINER STOGNER: Mr. Kellahin?

4 MR. KELLAHIN: I'm not going to suggest to Mr.
5 Carr how he try his case. I am telling the Division that I
6 have an objection because he's not laid a proper
7 foundation. It's up to him to figure out what he's going
8 to do.

9 MR. CARR: I would just note that in that regard
10 I will ask those questions of Mr. Hawkins. But when Mr.
11 Kellahin had no objections to the qualifications of Mr.
12 Hawkins in the past, we have explained in detail what his
13 work has entailed, but I will ask those questions.

14 EXAMINER STOGNER: Mr. Carr, if you would begin
15 to lay a brief foundation for the record.

16 Q. (By Mr. Carr) Mr. Hawkins, have you reviewed the
17 AFES that have been submitted by Amoco to Richardson and
18 other interest owners concerning the wells that are the
19 subject of this hearing?

20 A. Yes, I have.

21 Q. Have you also reviewed the AFES that have been
22 provided by Richardson to you concerning the wells that are
23 located on the property which is the subject of this
24 hearing?

25 A. Yes, I have.

1 Q. Now, in your work -- When did you first become
2 employed as a petroleum engineer?

3 A. In June of 1974.

4 Q. And by whom were you employed?

5 A. Amoco Production Company.

6 Q. And what was your position with Amoco at that
7 time?

8 A. Petroleum engineer.

9 Q. And where were you working?

10 A. In Lafayette, Louisiana.

11 Q. And what were the duties that you were assigned
12 at that time?

13 A. As a production operations engineer my job was to
14 assist in implementation of drilling programs and to
15 monitor production from producing wells, recommend
16 completion or recompletion or workover that might be
17 necessary to improve production.

18 Q. Were you ever called upon in that role to review
19 AFEs?

20 A. Yes.

21 Q. Were you called upon in that role to ever prepare
22 an AFE?

23 A. Yes.

24 Q. And how many AFEs have you prepared in your
25 career, since you first went to work with Amoco?

1 A. I don't have an exact number, but I would say
2 it's on the order of a dozen or so.

3 Q. And after your initial assignment, you have held
4 various engineering positions with Amoco at all times
5 thereafter?

6 A. Yes.

7 Q. And in all of those positions have you been
8 called upon to be familiar with AFEs?

9 A. Yes.

10 Q. And are you familiar with what goes into the
11 preparation of an AFE?

12 A. Yes, I am.

13 Q. When you look at an AFE, do you know what the
14 items in an AFE are intended to represent?

15 A. Yes.

16 Q. When you looked at the AFEs that were submitted
17 in this case by Richardson, were you aware of what they
18 were representing to Amoco as the costs that were going to
19 be incurred for various items?

20 A. Yes.

21 Q. In your expertise, do you understand an AFE when
22 you receive one?

23 A. Yes.

24 Q. And are you called upon to look at an AFE and
25 evaluate whether or not it's appropriate for your company

1 to participate in the well?

2 A. In my present position I am not required to do
3 that, but I have done that in the past.

4 MR. CARR: I would tender Mr. Hawkins as a
5 competent witness to review AFES for wells proposed in the
6 San Juan Basin.

7 MR. KELLAHIN: Same objection, Mr. Examiner.

8 EXAMINER STOGNER: May I ask why, Mr. Kellahin?

9 MR. KELLAHIN: Yes, sir, he's not specifically
10 tied the Amoco AFES in this particular matter to his
11 personal knowledge and review. If Mr. Carr asked that
12 question, I did not hear the answer.

13 He has shown a general reference as a petroleum
14 engineer to have personally prepared perhaps a dozen AFES,
15 and I have yet to hear that he had any detailed involvement
16 with regards to the preparation of Amoco's AFES as to these
17 two specific wells.

18 And for that reason, I object.

19 MR. CARR: You know, Mr. Stogner, we can sit here
20 all afternoon, but the fact is, we're not offering Mr.
21 Hawkins' testimony as a person who prepared the AFE.

22 We have qualified him as someone who can look at
23 the AFE and evaluate it, and we've shown that he has the
24 experience and expertise to do that. And I've laid a
25 proper foundation, and I'd like to let Mr. Hawkins go

1 forward and present our case.

2 But we can sit here and argue this stuff all
3 afternoon if that's what Mr. Kellahin wants. But I would
4 submit to you I have laid a proper foundation, and Mr.
5 Hawkins is a qualified witness to review this Exhibit.

6 EXAMINER STOGNER: Mr. Carr, I'm going to allow
7 your questioning to continue, and I'm going to overrule
8 your objection, Mr. Kellahin.

9 Mr. Carr?

10 Q. (By Mr. Carr) Mr. Hawkins, can you identify the
11 page that at the top in the Amoco exhibit book is entitled
12 "AFE Comparison"?

13 A. Yes.

14 Q. Did you prepare this exhibit?

15 A. Yes, I did.

16 Q. And what did you look at in preparing the
17 exhibit?

18 A. I looked at the AFEs that were submitted both by
19 Richardson Operating Company and Amoco for the Burnham Gas
20 Com A Well Number 1 and identified the significant
21 differences between those two AFEs in terms of costs.

22 Q. What was the total cost reflected on the AFE of
23 the Richardson Operating Company AFE for the Burnham Gas
24 Com A Number 1 well?

25 A. I show it here as \$152,117.

1 Q. And how does that compare to the total cost shown
2 on the Amoco Corporation AFE?

3 A. Our AFE was for \$216,260.

4 Q. And the total difference?

5 A. \$64,143.

6 Q. So Amoco's AFE was \$64,143 higher than the
7 Richardson?

8 A. That's correct.

9 Q. Were you able to, looking at these two AFEs,
10 identify areas where there were significant differences in
11 the amount being suggested for various items in the
12 drilling of these wells?

13 A. Yes, I was. There are a number of differences
14 between the two AFEs, so it's difficult to compare line
15 items.

16 But the three most obvious differences that
17 seemed to make up this difference to me are identified
18 below, that being primarily the cost for stimulation, the
19 compression costs and the contingency costs.

20 Q. All right, let's go to the stimulation portion of
21 the AFEs. What did the Richardson AFEs propose for
22 stimulation costs?

23 A. Richardson's AFE was for \$24,000 for a
24 stimulation.

25 Q. And for Amoco?

1 A. \$43,000.

2 Q. Can you tell me whether or not the Amoco \$43,000
3 figure, in your estimate, is what the current cost for
4 stimulation would be today?

5 A. It would depend somewhat on the stimulation that
6 we're proposing. In this case, we've looked at the types
7 of stimulations that we would be using for the Burnham Gas
8 Com A 1, and recently our costs are in fact more on the
9 order of the Richardson estimate, \$24,000.

10 So I would say that we would expect to be able to
11 stimulate this well for a cost of about \$24,000.

12 Q. Looking at the recent stimulation costs for wells
13 of this nature, you said they've come down. Over what
14 period of time?

15 A. We've been looking at trying to reduce costs of
16 fracture stimulations over the last year. And in fact,
17 over about the last six months we've seen stimulation costs
18 come down to the \$20,000-to-\$24,000 range on our recent
19 Ruth well completion and -- I believe there's one more.
20 I'd have to look up the name of the well.

21 Q. When was the Ruth well actually completed?

22 A. February of 1994.

23 Q. And so is it appropriate to assume the
24 stimulation figure reflected by the Richardson AFE to be
25 more in line with what the actual cost would be?

1 A. Yes.

2 Q. What about the entry for compressor charges?

3 A. We could not identify any cost for compressor for
4 the Richardson well. We believe the well will need a
5 compressor to produce efficiently, lower the surface
6 pressure. In fact, we believe that the Richardson wells
7 that are in the area use compressor as well.

8 So we've estimated the cost for that compressor
9 to be \$30,000.

10 Q. Is that \$30,000 in line with the costs associated
11 with installing compression on similar wells currently
12 operated by or completed by Amoco?

13 A. Yes.

14 Q. All right, there's an item called "Contingency"
15 where there's a difference. Could you tell me how Amoco
16 comes forward with a contingency item in an AFE?

17 A. Well, our contingency is based on 15 percent.
18 It's an estimated contingency that would reflect any number
19 of problems you might incur or just some differences in
20 actual costs.

21 Q. And so that is the actual figure that you use
22 across the board, or the way you derive a contingency
23 figure within Amoco?

24 A. That's correct.

25 Q. If you were successful in this case and submitted

1 an AFE with an order approving the pooling of the acreage
2 and designating Amoco the operator, would the stimulation
3 charges in that AFE be adjusted to reflect the most recent
4 costs?

5 A. Yes, they would.

6 Q. Now let's go to the next page, "AFE Comparison,
7 Burnham Gas Com B Number 1 Well". Do you see that?

8 A. Yes.

9 Q. Have you reviewed the AFEs, both of Amoco and
10 Richardson Operating Company, for the wells that are being
11 proposed in the southwest quarter of Section 12?

12 A. Yes, I have.

13 Q. And does this exhibit, like the page before it,
14 compare to certain cost differences reflected in those
15 AFEs?

16 A. Yes.

17 Q. How much was the Amoco AFE in excess of the
18 Richardson Operating Company AFE?

19 A. \$66,781.

20 Q. Again, you have identified three areas where
21 there is a difference in the two AFEs; is that correct?

22 A. That's correct.

23 Q. Let's go to the bottom one, the contingency.
24 Again, that is a 15-percent charge for gross well costs,
25 and that's how the Amoco \$34,000 figure is obtained; is

1 that right?

2 A. That's right.

3 Q. And we go, then, up the list, the compressor cost
4 again. You don't find compressor charge in the Richardson
5 AFE, and you have estimated \$30,000 would be necessary for
6 the Amoco well?

7 A. Yes.

8 Q. As to stimulation, would you review that, please?

9 A. Again, we've looked at the Richardson cost of
10 \$48,000 and Amoco's estimated cost, \$70,000.

11 We compared back with our recent Ruth completion,
12 which was a Fruitland and PC downhole commingled with both
13 zones requiring fracture-stimulation, and the total cost
14 for that was about \$48,000.

15 So I think we would be able to stimulate this
16 well and use that same \$48,000 cost.

17 Q. And if you were successful in this case and
18 required to submit an estimate of well costs with an order
19 to those nonparticipating interest owners, is it correct
20 that Amoco would use the most recent current stimulation
21 figure?

22 A. Yes.

23 Q. Now, these are just AFEs, these are just
24 authorities for expenditure?

25 A. That's correct.

1 Q. They're estimates; is that correct?

2 A. They are estimates.

3 Q. Are the actual charges that the non-operator
4 would have to bear, the non-joining operator, would be a
5 share of the actual expenses?

6 A. That's correct.

7 Q. Let's go to the information behind the tab called
8 "Overhead and Risk".

9 A. Okay. I've prepared an exhibit here entitled
10 "Compulsory Pooling", and it has the two remaining items I
11 think we need to settle on today.

12 The charge for supervision, which is an overhead
13 charge, we've shown -- These are the dollar figures that
14 were included on the operating agreement that was submitted
15 to Richardson, drilling overhead of \$3582 a month and
16 producing well rate of \$498 a month.

17 Q. Mr. Hawkins, how do these figures compare with
18 the *Ernst & Young* survey figures for wells to this depth in
19 this area?

20 A. The -- We've looked at the recent *Ernst & Young*
21 figures, and the drilling costs are -- our costs are
22 actually lower than the *Ernst & Young* figures. I believe
23 they're -- I have something here to look at, let me just
24 refresh my memory.

25 Drilling well rate is close to \$5000 per month,

1 and the producing well rate by *Ernst & Young* is about \$412
2 to \$450 for a median figure. And our suggested cost or
3 overhead was \$498.

4 Q. Do you request that the figures set forth on this
5 exhibit be incorporated into any order resulting from this
6 hearing?

7 A. Yes, we would. And in fact, we would ask that
8 the supervision -- the overhead rates allow to escalate
9 according to a COPAS escalation factor each year.

10 Q. Is that COPAS escalation factor included with the
11 accounting attachment to the operating agreement which has
12 been prepared for this property?

13 A. Yes, it is. On the page just behind this
14 "Compulsory Pooling" page there's a copy of the COPAS, on
15 the page that discusses overhead charges. And you can see
16 about halfway down the page the same charges that I've
17 identified.

18 And down at the bottom of the page, under
19 paragraph A (3), it says these rates would be adjusted on
20 the first day of April, following the effective date of the
21 agreement being signed.

22 And it identifies the escalation factor as the
23 increase or decrease in the average weekly earnings of
24 crude petroleum and gas production workers for the last
25 calendar year. And that number is published regularly. Or

1 annually, I should say.

2 Q. Mr. Hawkins did you review the Applications that
3 were filed by Richardson seeking compulsory pooling in each
4 of these cases?

5 A. Yes.

6 Q. Did you see the risk penalties that were being
7 sought in each of those Applications to be assessed against
8 any interest owner who wasn't voluntarily in the well?

9 A. Yes, I did.

10 Q. And do you recall what those were?

11 A. Yes, they were 200 percent.

12 Q. Do you disagree with assessing the maximum
13 penalty authorized by this Division --

14 A. No, I do not.

15 Q. -- against any nonparticipating interest owner,
16 no matter who prevails?

17 A. No, that's right, I do not.

18 Q. And what are you recommending as the appropriate
19 risk penalty to be assessed if Amoco is successful in this
20 matter?

21 A. For the Fruitland Coal, costs for that portion of
22 the well, in the Burnham Gas Com B well, 156 percent, which
23 I believe is the standard that the NMOCD has been using
24 over the last few years.

25 For the Pictured Cliffs well and completion in

1 the Burnham Gas Com B well, the 200-percent figure.

2 Q. And why should we assess a penalty in this case
3 if someone is not participating in the well?

4 A. Well, the parties who are paying for the well
5 obviously are taking all of the risk for this.

6 The risks that would be involved, obviously,
7 would include not only costs and maybe potential trouble in
8 drilling the well, but also some geologic risks associated
9 with making economic wells.

10 Q. In your opinion, is it possible that any of the
11 wells that are involved in this hearing could be drilled
12 and in fact would not be an economic success?

13 A. Yes, I think that could be.

14 Q. Does Amoco request to be designated operator of
15 each of the proposed wells?

16 A. Yes.

17 Q. In your opinion, will approval of this
18 Application and designation of Amoco as operator and the
19 drilling of development of these tracts as Amoco has
20 proposed be in the best interest of conservation, the
21 prevention of waste and the protection of correlative
22 rights?

23 A. Yes.

24 Q. Were the portions of the exhibit book behind the
25 last two tabs prepared by you or compiled under your

1 direction?

2 A. Yes, they were.

3 MR. CARR: At this time, Mr. Stogner, we move the
4 admission into evidence of the material behind the last two
5 tabs in Amoco Exhibit 1.

6 EXAMINER STOGNER: Are there any objections?

7 MR. KELLAHIN: No objection, Mr. Examiner.

8 EXAMINER STOGNER: The last two tabs under
9 Exhibit 1 of Amoco will be admitted into evidence at this
10 time.

11 MR. CARR: And that concludes my direct
12 examination of Mr. Hawkins.

13 EXAMINER STOGNER: Thank you, Mr. Carr.
14 Mr. Kellahin, your witness.

15 MR. KELLAHIN: Thank you, Mr. Examiner.

16 CROSS-EXAMINATION

17 BY MR. KELLAHIN:

18 Q. Mr. Hawkins, as part of your risk analysis for
19 your last statements to Mr. Carr, did you examine the
20 production or the productivity of any of the Pictured Cliff
21 wells within a mile of either of these two proposed wells?

22 A. Yes, I have.

23 Q. As part of your risk analysis for the coal gas
24 well in the southwest portion of the section, did you, for
25 that reservoir, examine for the location and productivity

1 of any coal gas wells within a mile of that area?

2 A. I did not look at any Fruitland Coal well.

3 Q. How far do we have to go from either of these two
4 well proposals to have a Pictured Cliff well that is
5 operated by Amoco?

6 A. Pretty far. The unit to the south is operated by
7 BHP. The wells that are immediately next door, I know
8 Richardson has some operations in the Pictured Cliffs. I'm
9 not sure how far our wells -- how far we'd have to go.
10 However, we do operate probably over 1000 Pictured Cliffs
11 wells.

12 Q. As part of your analysis and comparison of the
13 AFEs, did you also look into Mr. Grotke's conclusion about
14 the economics in packaging five of these PC well proposals
15 as a package?

16 A. My understanding on that is that we were trying
17 to improve the economics by including five Pictured Cliffs
18 wells to be drilled as a package, or six, and that was --
19 Really, the key there is to make these wells the most
20 economic ventures that we can.

21 Q. My question for you: Does Amoco's AFE, as we see
22 it in the exhibit book, recommend the economic advantage
23 that Mr. Grotke perceived by packaging five PC wells
24 together?

25 A. I believe it does.

1 Q. That was his method?

2 A. That was one of the things he was looking at to
3 drive the cost down, that's correct.

4 Q. Okay. As part of your analysis, did you attempt
5 to authenticate the reliability of his AFEs by looking for
6 PC wells that you had drilled and operated recently, to see
7 what actual costs did in comparison to his proposed AFE
8 costs?

9 A. Yes, I did.

10 Q. And as a result of that, what did you conclude?

11 A. Well, I concluded that the recent PC wells that
12 we have drilled have been deeper than this. These are
13 about 1200-foot wells. So it would be difficult to take a
14 recent cost of a well such as the Ruth well and make a
15 direct analogy to what's being proposed here.

16 The Eva Lou well and the Ruth well are wells that
17 are drilled to the PC and Fruitland. The costs for those
18 wells is on the order of \$300,000. However, they are
19 typically about 3000, 3500 feet deep. So I would say that
20 a typical PC well has been a little bit more expensive than
21 what we're proposing here.

22 Q. So as part of your background and analysis, you
23 have actually looked at actual costs for PC wells to see
24 how they compare to this AFE?

25 A. Right.

1 Q. All right. Let's turn, then, to the first page
2 of the "Well Cost" tab --

3 A. Okay.

4 Q. -- in your exhibit book, and just for
5 illustration, let's start there. This is the one in the
6 northwest quarter, and it's the PC stand-alone; is that
7 correct?

8 A. That's correct.

9 Q. What have you concluded to be the method by which
10 the drilling costs have been calculated? Is this a day
11 rate or a footage rate or some combination?

12 A. It is a -- what I would say a combination rate,
13 that is -- includes the cost of a -- in this case, a coiled
14 tubing unit.

15 Q. All right, a coiled tubing unit?

16 A. That's correct.

17 Q. And what will that do?

18 A. Well, we're trying to use some new technology,
19 some new drilling technology, to reduce the cost of
20 drilling shallow wells such as this. And one of the things
21 we're looking at are some recent slimhole completions that
22 have been drilled and have been -- have had articles
23 written on them by Shell Oil.

24 Q. So I'm clear, what does the coiled tubing mean?

25 A. Well, coiled tubing is simply a spool of tubing

1 that can be used to lower the drill bit into the well and
2 to -- or you could use it as a workover mechanism to
3 displace fluids up and down the wellbore.

4 Q. Do the cost components of the two AFEs proposed
5 by Amoco include the application of that technique to these
6 wells?

7 A. Yes, they do.

8 Q. You've made reference to slimhole technology.
9 Define that for me.

10 A. I would say it is using wellbores that are
11 smaller than, say, 4-1/2-inch casing.

12 Q. Mr. Grotke was anticipating using 2 7/8, if I'm
13 not mistaken. Do you have any information contrary to
14 that?

15 A. Yeah, I do. I was checking with him this morning
16 on exactly what we were planning on.

17 For these wells we were planning on using 3-1/2-
18 inch casing, drilling a 4-3/4-inch hole with 3-1/2-inch
19 casing, and then running 2-3/8-inch tubing inside that.

20 Q. All right. So the 2-3/8-inch tubing goes inside
21 all that configuration?

22 A. Right.

23 Q. All right. Is that an acceptable method for
24 completing a PC well with the addition of the Coal?

25 A. We think that it can be done, and we think that

1 it will be -- It's something that's new, and so we're going
2 to have to try it out.

3 Q. Have you done it anywhere?

4 A. We have not.

5 Q. This is an experiment in this project?

6 A. Well, I don't know if I'd call it an experiment.

7 It had been done by drilling companies, and I think that we
8 would be using a drilling company that would be familiar
9 with this. So in that respect --

10 Q. We don't have a field example in the PC, in the
11 San Juan Basin, where this has been done?

12 A. We have not.

13 Q. In terms of the compression, there's an item of
14 difference here for the Examiner's consideration. I want
15 to understand what you and Mr. Grotke have anticipated in
16 terms of compression and the cost.

17 A. Okay.

18 Q. Are you anticipating buying a new compressor and
19 sharing that cost with the operators, or are you going to
20 rent it or lease it to the other working interest owners?
21 What's the concept?

22 A. My understanding is the concept that it would be
23 purchased and it would be owned by the working interest
24 owners of the well.

25 Q. All right. So all working interest owners,

1 including Amoco, take the same method to compensate or pay
2 for the compressor, and it's to be a new compressor?

3 A. As far as I understand.

4 Q. All right. I'm curious about the overhead rates.
5 You've got some proposed overhead rates in here.

6 Does Amoco charge the working interest owners for
7 items in addition to the overhead that represent
8 reimbursements for what I would characterize to be a
9 district office charge?

10 A. I think we charge the direct salaries of
11 supervisors in the field, and all others are charged as an
12 overhead rate.

13 Q. All right. So when we --

14 A. Excuse me, I mean -- not all others. But the
15 other salaries and other costs would be included within
16 some type of overhead charge.

17 Q. All right, and that is an overhead charge
18 attributable back to the wellhead, in addition to the
19 overhead charges we talked about that are normally in these
20 pooling orders?

21 A. I -- Well, we would treat it as a direct charge.

22 Q. That's what I'm saying. You and I are saying the
23 same thing.

24 A. Okay.

25 Q. It's a direct charge, which means it will be in

1 addition to --

2 A. -- to the overhead charge.

3 Q. -- this overhead number?

4 A. That's correct.

5 Q. Do you know what that direct charge would be for
6 these two wells?

7 A. I don't know specifically what that portion of
8 the direct charge would be. I think we could make some
9 estimates as to what direct charges might be.

10 Q. If I estimated it was about \$300 for each of
11 these wells for direct costs, would that be a fair
12 estimate?

13 A. That would probably be on the order that we would
14 look at, but I think we would anticipate there would be
15 some other direct charges that might be necessary against
16 these wells, that would be in excess of that.

17 Q. Did you and Mr. Grotke price out the compressor?

18 A. I did not price out the compressor. I just asked
19 him what was the price of the compressor.

20 Q. He's only got \$30,000 down here for a compressor.

21 A. That's right.

22 Q. Do you have a bid or a price for a compressor at
23 \$30,000?

24 A. I do not know.

25 Q. When we look at the drilling portion of the AFE,

1 the \$36,000, now, how is that to be determined? Is that a
2 daily rate or a footage rate?

3 A. I don't think that that is a daily rate or a
4 footage rate. I think it is a charge for the coiled tubing
5 unit services. I know that we are expecting to be on the
6 rig about two days, but I'm not -- I couldn't tell you that
7 that was a footage rate. I don't think that's the way
8 that's set up with the coiled tubing unit.

9 Q. The anticipated drilling time is two days?

10 A. The time that we would be on the well for --
11 actually drilling the hole, would be about two days.

12 We would have another day for surface pipe, and
13 then we would have some completion which would occur in the
14 future, after we moved these coiled tubing units off.

15 Q. The stimulation, you've re-examined that issue
16 with Mr. Grotke and you agree that the Richardson AFE in
17 terms of stimulation is more likely to be current than
18 your?

19 A. Yes.

20 Q. Okay. The completion portion of the costs,
21 what -- If I'm looking at the right AFE calculation for
22 this well, it appears as if your completion rig costs are
23 about \$3100?

24 A. I'm not sure where you're looking.

25 Q. Well, perhaps it's easier to ask you the direct

1 question: What costs do you attribute to completion for
2 this well?

3 A. The completion would include setting the tubing,
4 the -- some of the wellhead connections and the surface
5 equipment. We also have some cementing, so -- I mean,
6 there's a -- We've got a breakdown here that, you know,
7 identifies the majority of these items.

8 Admittedly, they are, you know, kind of a line-
9 item number, but I don't believe that the -- there's much
10 difference in most of the completion costs, other than the
11 stimulation, as compared to what Richardson had proposed.

12 Q. Do you anticipate that either one or both of
13 these wells are going to be hooked into your Jupiter
14 computer well automation system?

15 A. I suspect that they will be, yes.

16 Q. And what is the approximate cost per well to
17 participate on that system?

18 A. I don't really know what that cost is.

19 Q. Describe for me the completion technique that you
20 and Mr. Grotke anticipate for the downhole commingling of
21 the well that will be the downhole commingled well.

22 A. Can you say that again?

23 Q. Yes, sir, perhaps I'm ahead of myself.

24 Do you and Mr. Grotke propose that the well in
25 the southwest quarter, to access both the PC and the coal

1 gas, is going to be a downhole commingled well?

2 A. Yes.

3 Q. It's not going to be a dual?

4 A. That's right.

5 Q. All right. How will you complete it for downhole
6 commingling production?

7 A. It will be completed with both zones being
8 perforated and fracture stimulated through the 3-1/2-inch
9 casing and then producing up through a single string of
10 tubing.

11 And in fact, there may be gas produced up the
12 annulus of the tubing and the liquids produced up the
13 tubing through a beam lift.

14 So I haven't had a -- you know, a lot of
15 discussion with him on exactly what that method would look
16 like, other than I would assume we would be lifting the
17 liquids that we anticipate out through the tubing and then
18 producing gas maybe up through the annulus.

19 Q. Do you and Mr. Grotke plan to apply the coiled
20 tubing and the slimhole technology to the other three wells
21 in the five-well project?

22 A. That's my understanding, yes, that this would be
23 used, move the coiled tubing from one location to the next
24 to drill those and kind of save on some of the move-in/
25 move-out costs, et cetera.

1 Q. Okay. If the Examiner awards operations to
2 Richardson and you only have three wells left in your
3 package, do you have other PC wells that you could add to
4 the economic package to go forward with your project?

5 A. I would anticipate that there would be some, but
6 I couldn't identify them to you today.

7 MR. KELLAHIN: Thank you, Mr. Examiner, I have no
8 other questions.

9 EXAMINER STOGNER: Any redirect, Mr. Carr?

10 MR. CARR: No redirect.

11 EXAMINER STOGNER: Any questions, Mr. Carroll?

12 MR. CARROLL: No.

13 EXAMINATION

14 BY EXAMINER STOGNER:

15 Q. On the overhead charges, Mr. Hawkins --

16 A. Yes.

17 Q. -- charge for risk, Fruitland Coal 156, Pictured
18 Cliffs 200, if this well is drilled and dual- -- I'm sorry,
19 downhole commingled -- should it get two risk penalties,
20 one for each completion, or just one risk penalty for the
21 completion of the well?

22 A. I guess what we anticipated is, since we were
23 able to identify costs associated with the Fruitland
24 portion of the well and the costs associated with the
25 Pictured Cliffs portion of the well, that you could apply

1 two risk factors, and we would have anticipated the
2 Division would want to use the 156-percent risk for the
3 Fruitland.

4 I think we would be receptive of, you know, one
5 of risk factor for the whole well, if that's the way the
6 Division desired to issue the order.

7 And I would ask that that be the 200-percent, as
8 opposed to the 156.

9 Q. And the production would be broke out, I would
10 assume --

11 A. That's correct.

12 Q. -- somehow?

13 Although I understand the New Mexico Oil and Gas
14 Association is making a proposal that that not be true
15 anymore, so that could affect how this outcome comes out.
16 That's a different story.

17 Again, could you tell me what the contingencies
18 would consist of, roughly?

19 A. Well, I can tell you that it's really designed to
20 cover anything that might not happen according to our
21 drilling plan, such as some potential problems that would
22 cause, you know, spending a little more money on an extra
23 day with the rig out there, or some additional costs over,
24 you know, the mud or sand or cement or anything that we,
25 you know, didn't estimate right on the dot.

1 You know, right now I think we're just assuming
2 that the 15 percent is a reasonable estimate of the
3 contingencies that would be needed to be covered.

4 Q. How do I get the contingency for the Burnham Gas
5 Com A well Number 1, \$28,000? Which figures do I add into
6 that?

7 A. Well, the way I got it, I had to back into it,
8 because it's 15 percent of the total costs before you add
9 the \$28,000.

10 If you take \$216,000 and subtract the contingency
11 out, you get -- I don't have my calculator with me, but you
12 get about \$188,000.

13 And if you take 15 percent of that, you'll get
14 pretty close to \$28,000. That's probably rounded off.

15 Q. So that's 15 percent of the total over what?

16 A. It's 15 percent of the total costs, before you --
17 I mean, you have to back it out of the \$216,000, the
18 contingency portion, to calculate 15 percent of that number
19 prior to the contingency.

20 EXAMINER STOGNER: Okay. Any other questions of
21 Mr. Hawkins?

22 MR. CARR: No questions.

23 MR. KELLAHIN: I have a follow-up question, if I
24 may, Mr. Examiner.

25 EXAMINER STOGNER: Mr. Kellahin?

FURTHER EXAMINATION

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BY MR. KELLAHIN:

Q. Mr. Stogner was talking to you about the commingling, the downhole commingling.

I don't see anything in the Application or in the advertisement by which Amoco seeks approval to downhole commingle that well, Mr. Hawkins; is that correct?

A. That's correct, it will require a future application.

Q. Will that application be consistent with the methodology that Amoco and Meridian and Richardson have used for the coal gas PC allocations? Are you familiar with that process?

A. I am familiar with that. We are looking at alternatives to that allocation method.

We have not evaluated exactly what that allocation would be in this area, but it may very well be exactly the one you're describing where you project what the Pictured Cliffs should be, and then any production in excess of that is allocated to the Fruitland.

Q. All right. You've not yet commenced that process --

A. That's correct.

Q. -- with regards to these two wells?

A. That's correct.

1 Q. I mean, this one well?

2 A. That's correct.

3 MR. KELLAHIN: Thank you.

4 EXAMINER STOGNER: Any other questions of Mr.
5 Hawkins?

6 He may be excused.

7 Let's take a 20-minute recess from this one. In
8 the meantime, during this recess, I'm going to call the
9 nomenclature case, 11,272.

10 (Thereupon, a recess was taken at 3:09 p.m.)

11 (The following proceedings had at 3:35 p.m.)

12 EXAMINER STOGNER: Hearing will come to order at
13 this time.

14 Mr. Kellahin?

15 MR. KELLAHIN: Mr. Examiner, I'd like to call my
16 first witness, Ms. Cathy Colby. She spells her last name
17 C-o-l-b-y.

18 CATHLEEN COLBY,

19 the witness herein, after having been first duly sworn upon
20 her oath, was examined and testified as follows:

21 DIRECT EXAMINATION

22 BY MR. KELLAHIN:

23 Q. Ms. Colby, for the record would you please state
24 your name and occupation?

25 A. My name is Cathleen Colby. I'm a certified

1 professional landman.

2 Q. You're going to have to keep the volume of your
3 voice up. The microphone doesn't help you; that's for the
4 court reporter. And we've got the hum of the air
5 conditioner in here, so you really have to shout at us.

6 A. Okay.

7 Q. On prior occasions, have you testified before
8 this agency?

9 A. No, I have not.

10 Q. Summarize for us, if you will, briefly, your
11 educational background that qualified you as a professional
12 petroleum landman.

13 A. I have a degree from the University of Colorado,
14 Denver, in mineral land management.

15 Q. In what year did you obtain that degree?

16 A. In 1986.

17 Q. And subsequent to that, have you worked in that
18 professional field?

19 A. Yes, I have. I've worked in the oil and gas
20 business since 1979. I have worked in the capacity of a
21 landman most of that time and -- continuously to current.

22 Q. And what is your employment with the Applicant,
23 Richardson Operating Company?

24 A. I am the land manager at Richardson Operating
25 Company.

1 Q. All right. If there are land transactions to
2 negotiate on behalf of Mr. Richardson and his company, you
3 are the person; is that not true?

4 A. I am one of the people within the company that
5 conducts negotiations.

6 Q. Insofar as we deal with land transactions for
7 this particular area that involves either the coal gas or
8 the PC gas within this particular section or in this
9 particular area, are you the person with that
10 responsibility?

11 A. There are two people within the company that
12 conduct negotiations in this area.

13 Q. Okay. And have you conducted the negotiations
14 for these proposals by Richardson for operation over these
15 two wells?

16 A. Yes, I have. I've been the one that's handled
17 all of the negotiations in the entire Section 12.

18 MR. KELLAHIN: Mr. Examiner, we tender Ms. Colby
19 as an expert petroleum landman.

20 EXAMINER STOGNER: Any objections?

21 MR. CARR: No objection.

22 EXAMINER STOGNER: Ms. Colby is so qualified.

23 Q. (By Mr. Kellahin) Ms. Colby, let's orient the
24 Examiner to this particular area. And to help you do so, I
25 have put a photograph on the display board.

1 With Mr. Carr's indulgence, we will have this
2 duplicated after the hearing, Mr. Examiner. It represents
3 our only copy at this point.

4 It is marked as Applicant -- Richardson Operating
5 Company, as Applicant Exhibit 1.

6 For the record, before we start talking about the
7 display, describe for me the source of the photograph.

8 A. I obtained this photograph from the U.S.
9 Department of Agriculture.

10 Q. All right, and what is the vintage of the
11 photograph?

12 A. It was taken in 1991.

13 Q. Have you utilized it in your work and bid on the
14 surface of this area to a sufficient extent that you can
15 determine whether this photograph is accurate and correct
16 at the time it was taken?

17 A. Yes, sir, I have. And it appears to be accurate.

18 Q. All right. And for your purposes, then, did you
19 prepare the overlay that's on the display?

20 A. Yes, I did.

21 Q. If you'll take the pointer and approach the
22 exhibit, let's identify for the Examiner some of the
23 identifying features in this area.

24 And perhaps it's easiest if you'll block me --

25 A. Okay.

1 Q. -- stand in front of me and orient the Examiner
2 so that Mr. Carr may also see.

3 First of all, let's find Mr. Tom Dugan's house.
4 Everybody knows where his house is, and I think if we find
5 it on the display it might help everybody. Show us where
6 it is and how you've identified it.

7 A. You can tell by the general shape of the
8 structure that that's where it is. This is South Side
9 River Road, this is the dirt road that goes right up into
10 the Dugan residence.

11 EXAMINER STOGNER: I'll tell you what, Mr.
12 Kellahin. On this photograph, which measures about --
13 what, four by four? -- there's a red square --

14 THE WITNESS: Yes.

15 EXAMINER STOGNER: -- and that square denotes
16 Section 12.

17 THE WITNESS: Yes.

18 EXAMINER STOGNER: And then that square is
19 divvied up into four equal parts, being the northeast,
20 northwest, southwest and southeast quarters?

21 THE WITNESS: Yes.

22 EXAMINER STOGNER: And you have an overlay on the
23 west half essentially?

24 THE WITNESS: That's true.

25 EXAMINER STOGNER: And you were pointing at Mr.

1 Dugan's house over on the northeast -- southwest of the
2 northeast; is that correct?

3 THE WITNESS: That's correct.

4 EXAMINER STOGNER: Okay, let's reference the
5 quarter sections, if you would.

6 I'm sorry, Mr. Kellahin. Go ahead.

7 Q. (By Mr. Kellahin) Have you accurately determined
8 the location of the section as it's displayed on the
9 photograph?

10 A. Yes, the overlay is a photocopy of the surface
11 ownership map obtained from the County Assessor's office,
12 and the tracts are easily identified.

13 Q. All right. In terms of subdividing Section 12,
14 then, what did you do with the overlay?

15 A. I marked on the overlay the drilling blocks that
16 would apply to PC wells, and I located the two existing
17 Dakota wells and drew the 200-foot radius around each of
18 those existing wells.

19 Q. Insofar as the surface use is concerned, for the
20 Richardson proposal, you have targeted an area within a
21 200-foot radius of a certain point, have you not?

22 A. That is correct.

23 Q. How have you identified each of those starting
24 points on the display? The center of the 200-foot-radius
25 circle is where?

1 A. On the existing Dakota well.

2 Q. All right. And what is the purpose to scribe an
3 area with a 200-foot radius around that particular well in
4 each instance?

5 A. Our proposal is to locate our wells on the
6 existing pads, to minimize surface disturbance. This is a
7 common practice in the area. We have a well in the
8 southeast quarter, our 12-2 well, where we share a pad with
9 Conoco.

10 Over in Section 7, over here, we have another
11 well where we share a pad in close proximity with Amoco.

12 That's why we haven't given exact footages in our
13 proposal, but we would like to work anywhere in this area
14 where it works out for the existing -- to be next to the
15 existing wells.

16 Q. All right, and if the Examiner should approve
17 Richardson as the operator, then you'll have that exact
18 location staked, and that staking information, then, would
19 be part of the approval process, and we would specifically
20 know where the well would be?

21 A. That is correct.

22 Q. All right. Let me ask you to return to your
23 seat.

24 Are you familiar with the operations of
25 Richardson and Amoco within this particular area?

1 A. Yes, I am.

2 Q. And have you made a search of information and
3 taken that information and reduced it to a display form?

4 A. Yes, I did, and that is marked Exhibit 2.

5 Q. Describe for us how you prepared Exhibit 2.

6 A. We have a base map that was put together by a
7 consulting geologist, and on that map more current wells
8 have been noted.

9 The Pictured Cliffs wells are identified by
10 purple color, the existing Fruitland Coal wells are
11 identified in turquoise, Richardson Operating Company wells
12 are identified with a yellow circle. Amoco wells do not
13 appear in this area.

14 Q. When we look at the display, if we start in the
15 northwest corner, count down one row of sections from the
16 top and count over one row from the left. You'll get to
17 Section 12?

18 A. That is correct.

19 Q. All right. The color code indicates yellow for
20 what, now?

21 A. Yellow are Richardson Operating Company-
22 operated -- or wells that we've drilled.

23 Q. All right. How far away do you have to go, based
24 upon your search, before you find an Amoco-operated PC
25 well?

1 A. My check on *Dwight's* indicated that the closest
2 Amoco-operated well was over six miles away.

3 Q. Can you identify for us examples on this
4 illustration of where a PC well has been put on the same
5 pad with either a Mesaverde or a Dakota well?

6 A. Well --

7 Q. How would that be illustrated?

8 A. Where the wells are spotted together.

9 Q. When we look at Section 12 in the east half of
10 the section, what has occurred in terms of the PC
11 development in the east half of this section?

12 A. Richardson Operating Company has drilled two
13 wells that produce from the Pictured Cliffs formation. One
14 of them is also a downhole commingled Fruitland Coal
15 producer.

16 Q. All right. Let's put that display aside and
17 let's look specifically, then, at each of the spacing units
18 accompanied by your calculation of the various interest
19 owner percentages.

20 If you'll start with Exhibit Number 3, identify
21 for us what we're looking at, and then I'll ask you some
22 questions.

23 A. The entire map shows the west half of Section 12.
24 The spacing unit for the well that Richardson has proposed
25 is -- the Pictured Cliffs spacing unit is the portion that

1 is colored.

2 There is a -- two leases have been contributed.
3 One is a fee lease owned by Amoco. The other is a federal
4 lease owned by Richardson, Christmann, Markham, McMullen,
5 Redfern and Kerr-McGee.

6 Q. All right. When we look at Exhibit 3, then,
7 we're looking at the PC portion for the spacing unit, which
8 would consist of the southwest quarter of 12?

9 A. That is correct.

10 Q. Have you tabulated a breakout of the working
11 interest ownership percentages and the identify of those
12 percentages that correspond to this spacing unit?

13 A. Yes, I have.

14 Q. How will we find that?

15 A. That's on the next page.

16 Q. All right. Starting at the top, then, you've
17 listed Richardson and then you've shown the following
18 interest owners?

19 A. That's correct.

20 Q. And are you satisfied that this information is
21 true and accurate?

22 A. Yes, to my best ability, I think it is correct.

23 Q. All right. Let's turn now to the next spacing
24 unit.

25 When we look at Exhibit 4, what are we looking at

1 here?

2 A. This is the same wellbore that we were just
3 looking at, but it is the ownership of the Fruitland Coal
4 formation. The spacing unit is the entire west half of
5 Section 12.

6 Q. In addition to the information shown on the first
7 page of that display, what have you appended to that
8 exhibit?

9 A. The ownership of the -- division of ownership of
10 everyone in the spacing unit.

11 Q. Okay. Let's go to the next one. If you look at
12 Exhibit 5, what are we looking at here?

13 A. This is the second well that Richardson has
14 proposed. It is a Pictured Cliffs formation well. The
15 spacing unit consists of the northwest quarter of Section
16 12.

17 Q. And again, have you followed the same method and
18 attached to the first page of this display a breakout of
19 the working interest identity and their percentages?

20 A. Yes, I have.

21 Q. Okay. Let me direct your attention to Exhibit
22 Number 6.

23 Before we talk about the details of Exhibit 6,
24 describe what is contained within the package of documents
25 that we have collectively identified as Exhibit 6?

1 A. The first page of Exhibit 6 is a chronology of
2 events that pertain to the west half of Section 12.

3 Attached to it are backup support. If a letter
4 is referred to, the copy of the letter is attached.

5 I did not attach executed AFEs here. Those are
6 included in another exhibit that we will look at later.

7 Q. All right. So your method in preparing Exhibit
8 Number 6 was to prepare a chronology, and for each major
9 event in the chronology you have attached the written
10 documentation that supported that entry?

11 A. That is correct.

12 Q. Using this as a guide or a reference, let me have
13 you relate to us how you have gone about your efforts to
14 consolidate interest owners in their participation with
15 Richardson for these wells.

16 What is your first effort in this area to acquire
17 the interest or the participation of other parties for an
18 operation by Richardson?

19 A. When we're speaking specifically of the west half
20 of Section 12, in January of 1993 Richardson made a
21 proposal to Amoco requesting a farm-in of their acreage.
22 It was a large multi-well drilling package. We were
23 requesting 30 days between wells.

24 Of the 3500 acres requested, the west half of
25 Section 12 was included.

1 Q. Why were you seeking to do that?

2 A. We had been -- In November and December of 1992,
3 we had just drilled seven wells to the east of here, and
4 this was an area that we were systematically and carefully
5 trying to develop. We were very interested in the area,
6 and we were making efforts to continue drilling wells based
7 on our geology.

8 Q. Were these Pictured Cliffs wells or wells from
9 some other formation?

10 A. The first seven wells that we drilled were
11 Fruitland Coal wells.

12 Q. How did you continue with that effort, then?

13 A. In November of 1993, another letter went to Amoco
14 -- Well, a phone call was made first, asking the
15 availability.

16 We contacted Amoco and all the other owners and
17 -- or the majority of the owners in the west half of
18 Section 12, and we were told by everybody that the acreage
19 was available, they would like to see a proposal in writing
20 and that the preference would be to offer several different
21 alternatives.

22 It was early December that letters went out to
23 everybody that owned an interest in the west half of
24 Section 12.

25 Q. Summarize for us your efforts with respect to

1 Amoco during this period as you attempt to acquire
2 participation for a Richardson-operated project.

3 A. I made a follow-up call to Amoco and talked to
4 Mrs. Jenkins, inquiring of Mrs. Jenkins -- inquired about
5 the review of our proposal. She said it was under review
6 and that -- She said she would get back to me.

7 Q. What then transpired in your efforts to pursue
8 cooperation by Amoco so that you, on behalf of Richardson,
9 could drill and operate PC wells in Section 12?

10 A. Richardson became involved in litigation with
11 Amoco in another state, and we were advised by our attorney
12 to cut off all communications with Amoco. So I did not
13 pursue our proposal.

14 Q. All right. Was that other dispute resolved?

15 A. It was resolved in settlement.

16 Q. All right. At -- When was that resolved, and
17 when did you then commence any efforts to further acquire
18 interest in this area?

19 A. I believe it was resolved in August of 1994.

20 Q. When, then, did you next commence efforts to
21 acquire additional interests within this particular area?

22 A. I had been talking to the other owners
23 continuously.

24 In January of 1994 I was successful in buying the
25 interest of J. Harvey Herd. In October of 1994 I was able

1 to buy the interest of the estate of John J. Redfern, Jr.
2 And I had ongoing conversations with the other owners
3 within the spacing units.

4 Q. All right. Did you receive a well proposal from
5 Amoco that was dated February 14th of 1995 for two wells in
6 the west half of Section 12?

7 A. Yes, we got two letters proposing two Pictured
8 Cliff wells.

9 Q. What, if anything, did you do in response to
10 receiving those proposals?

11 A. I -- One of the things I did was to give the
12 proposals -- well proposals and the AFEs to Mr. Richardson
13 for review.

14 Q. As a result of that review, did you have any
15 other contacts with Amoco?

16 A. Yes, I did. We knew that their AFEs were high
17 after reviewing them. We also, from past experiences, knew
18 what it was like to be a non-operator in a well that Amoco
19 operates.

20 Q. What was that like?

21 A. Their operating costs are very high. That's --
22 We had managed to --

23 MR. CARR: I'm going to object to this. There's
24 no foundation for this witness as a land person being able
25 to make statements as to whether or not well costs are high

1 or not, and --

2 MR. KELLAHIN: I'm asking her for information,
3 for the background for her statement as to why she believed
4 she could not reach a settlement with Amoco for them, for
5 Amoco, to operate a well.

6 I think it's proper for this land witness to
7 testify on the basis for her belief concerning her
8 negotiations with Amoco, Mr. Examiner.

9 MR. CARR: I don't think she's qualified to make
10 a statement about whether AFE costs were high or not, Mr.
11 Stogner.

12 I'm not going to keep us here all afternoon.
13 I'll withdraw the objection.

14 EXAMINER STOGNER: Thank you, Mr. Carr.

15 Mr. Kellahin?

16 Q. (By Mr. Kellahin) As a result of the AFEs being
17 high and the operating costs for Amoco being high, what
18 then did you do?

19 A. Our first choice is to continue our systematic
20 development in the area. That's what we had been working
21 toward.

22 When it appeared that -- Currently, at the time
23 we got the Amoco AFEs, we did not feel that we had a
24 standing, a large enough standing to submit -- You know,
25 that's why we had not yet submitted well proposals and AFEs

1 to the other parties.

2 So when we didn't think we had the opportunity to
3 operate, our first -- our reaction was to -- let's see if
4 we can get out of this section from being -- to avoid being
5 in a well with Amoco.

6 And I called Amoco and asked them, I said, We are
7 not happy with our past experiences, we're not happy with
8 the AFEs we got. May we trade out? Would you be inclined
9 to discuss trading acreage?

10 Q. With whom did you speak when you had that
11 conversation?

12 A. I spoke with Greg Grotke. He's not the first one
13 I called.

14 Originally, I called Ms. Jenkins; she was out of
15 town.

16 I called John Hashe, who was the attorney-in-fact
17 that signed the operating agreement. He was out for
18 several days.

19 So I called Greg Grotke because his name was on
20 the AFE.

21 Q. And what if any response did you receive from Mr.
22 Grotke with regards to that option?

23 A. He was very enthusiastic about the proposal, or
24 the idea, and said, Let me check and see what we own in the
25 area and I'll get back with you.

1 Q. All right. What happened then?

2 A. In my discussions with the other owners in the
3 spacing unit, we were able to come up with an agreement
4 acceptable to all parties where they would sell a part of
5 their interest to Richardson that would allow Richardson to
6 increase its interest, large enough that we felt that we
7 could send out an AFE and well proposal.

8 We prepared AFEs for two wells, one a Pictured
9 Cliffs, the other a Pictured Cliffs-Fruitland Coal downhole
10 commingle, and faxed copies, followed up hard copies in the
11 mail to people.

12 Q. Did Richardson's proposal to Amoco include a
13 proposal concerning the coal gas reservoir in the west half
14 of Section 12?

15 A. Yes, it did. The Fruitland Coal, you're allowed
16 to drill in the southwest or northeast. Our southwest
17 proposed well was a downhole commingle Pictured Cliff-
18 Fruitland Coal.

19 Q. Your chronology then goes on and describes your
20 further discussions and negotiations with Amoco and other
21 parties?

22 A. Yes, it does.

23 Q. All right. Did you receive any response from
24 Amoco concerning your AFE proposal that you sent to them on
25 March 6th?

1 A. We got a letter in the fax, followed up by a hard
2 copy on March the 7th, which was a response to two things.

3 It closed all negotiations to the acreage trade,
4 possible acreage trade, we had previously discussed.

5 And it said that they would respond to us soon in
6 writing regarding our well proposals.

7 Q. What's the next thing you received from Amoco?

8 A. We received a copy of Amoco's Application for
9 force-pooling.

10 Q. Let's turn to the next topic. If you'll look
11 with me at Exhibit Number 7, identify and describe for me
12 what is presented to the Examiner in Exhibit Number 7.

13 A. Exhibit Number 7 is Richardson's proposed
14 operating agreement for the well to be located in the
15 southwest quarter of Section 12.

16 Q. And Exhibit Number 8?

17 A. Exhibit Number 8 is a similar operating
18 agreement, however it covers the Pictured Cliffs formation
19 only, for the well to be located in the northwest quarter
20 of Section 12.

21 Q. Have you also compared Amoco's proposed operating
22 agreements to the Richardson proposed operating agreements?

23 A. Yes, I have.

24 Q. As a result of that comparison conducted by you,
25 can you summarize what are the major differences, if any,

1 between you and Richardson -- I'm sorry, between you and
2 Amoco?

3 A. In most cases, Richardson has kept to the
4 standard AAPL Model Form 610, the 1989 version.

5 Amoco has amended their operating agreement in
6 areas that Richardson would rather not agree to such
7 amendments.

8 Q. Can you summarize for me in a brief fashion what
9 the major points are of difference in your examination of
10 the operating agreements?

11 A. If you look on page 5 of the operating agreement,
12 under Article V., D-8, there is a standard provision that
13 upon request of any consenting party, the operator will
14 furnish estimates of current and cumulative costs incurred
15 for the joint account. Amoco has deleted this provision.

16 Q. All right. Any other points of major difference?

17 A. On page 6, the standard provision is, once that a
18 procedure has been proposed, that there is 90 days after
19 expiration of the notice period in which to commence
20 operations.

21 Amoco has amended that to read 60 days, which we
22 feel in a case where there's federal acreage, there are
23 often additional requirements on the federal application
24 for permit to drill that require more than 60 days.

25 Q. All right. Other items?

1 A. On page 7, Amoco has made a footnote to refer to
2 a page 7-A. We did not get a copy of a page 7-A, so we
3 don't know what that provides.

4 Q. All right, what else?

5 A. On page 8 -- Oh, there's a few -- a couple of
6 small typos on the Amoco operating agreement, on page 8 at
7 the bottom, which we would want clarification on before we
8 accepted the verbiage.

9 Q. All right.

10 A. On page 9 -- The standard operating agreement
11 allows for a response of an election within a 24-hour
12 period of time if a rig is on location.

13 Amoco has added that they -- that that 24-hour
14 response period is not to include Saturdays, Sundays or
15 legal holidays, which can be expensive.

16 Q. When you examine these kinds of documents as a
17 landman, are these matters of significance, important to
18 you in determining whether you recommend to Mr. Richardson
19 that he sign or not sign an operating agreement?

20 A. Well, they are, because -- Say, for instance in
21 the case of having a rig on standby over a weekend, could
22 cost several thousand dollars, where a telephone call to
23 somebody at home can get an answer and you can proceed with
24 your operation or procedure.

25 Q. What have you recommended to Mr. Richardson with

1 regards to his execution of the Amoco joint operating
2 agreement?

3 A. As written, it would not be acceptable.

4 Q. All right. Let's go to your efforts to
5 consolidate the interest owners that were otherwise not
6 committed between the parties when these proposals
7 commenced.

8 If you'll look at Exhibit Number 9, let's go
9 through that tabulation.

10 A. Okay. On April the 7th, I got a call from a
11 landman at Kerr-McGee. He expressed to me that he had just
12 talked to -- he had just called the landman at Amoco and
13 was going to tell us the same thing, which was that Kerr-
14 McGee was making a voluntary election to make assignment of
15 their interest to whichever party the OCD recommended would
16 be the operator of the two spacing units.

17 Q. Apart from the Kerr-McGee interest, where that
18 party decided to stand on the sidelines, have you been
19 successful in your efforts to consolidate all the remaining
20 uncommitted working interest owners, to participate with
21 Richardson?

22 A. Yes, I have. I have executed AFEs from all other
23 parties, excluding Amoco.

24 Q. All right. Do -- Ms. Jenkins says she had an AFE
25 signed by a man in Markham McMullen. Do you have an AFE

1 executed by that same party?

2 A. Yes, I do, and I was totally unaware that there
3 might be another executed AFE.

4 Q. All right. That lady has committed to both of
5 you.

6 Okay. Apart from her interests, do you have all
7 the rest all of these interests committed to you?

8 A. Yes, I do.

9 Q. All right. And is that what is shown when we
10 look at Exhibit 9 in terms of a tabulation of that
11 information?

12 A. Yes, sir.

13 Q. The method for preparing this is to show the
14 Richardson AFE number at the top of the column for this
15 well?

16 A. That is the dollar amount that Richardson's
17 AFE --

18 Q. And below that you show the interest committed to
19 Richardson and the percentages?

20 A. That is correct.

21 Q. And then below that you show the Amoco and the
22 Amoco percentages?

23 A. That is correct --

24 Q. All right.

25 A. -- per spacing unit interest.

1 Q. Attached to that, what have you appended?

2 A. There are copies of the executed AFEs.

3 Q. All right, let's turn now to Exhibit Number 10.

4 When we look at this tabulation, this is for what
5 well?

6 A. This tabulation is for the well proposed in the
7 northwest quarter, Pictured Cliffs.

8 Q. All right. Have you followed the same
9 methodology as you used for Exhibit 9, when you prepared
10 Exhibit 10?

11 A. Yes, I did.

12 Q. All right. And are you showing the same parties
13 committed to you concerning this well?

14 A. Yes, sir.

15 Q. All right. To the best of your knowledge, other
16 than Kerr-McGee, are there any other interest owners that
17 are uncommitted to either you or Amoco?

18 A. No, there are not.

19 Q. With regards to the well proposal, is there a
20 difference between the operators concerning the overhead
21 rate proposed?

22 A. Yes, there is. Richardson's proposed operating
23 agreement provides for \$450 a month overhead.

24 The Amoco operating agreement provides for \$500 a
25 month overhead.

1 Q. All right. And what is the drilling well rate on
2 a monthly basis? Do you remember that number?

3 A. Richardson proposes \$3500 drilling rate.

4 Q. All right. Do you propose the Examiner, should
5 he enter a pooling order that allows Richardson to operate,
6 that he utilize your proposed overhead rates of \$450 and
7 \$3500?

8 A. Yes, I do.

9 MR. KELLAHIN: That concludes my examination of
10 Ms. Colby.

11 We move the introduction of her Exhibits 1
12 through 10.

13 EXAMINER STOGNER: Are there any objections?

14 MR. CARR: No objection.

15 EXAMINER STOGNER: Okay, Exhibits 1 through 10
16 will be admitted into evidence.

17 I'm assuming that you'll provide us a scaled-down
18 copy of Exhibit 1?

19 MR. KELLAHIN: Yes, sir.

20 EXAMINER STOGNER: A wallet-size photo?

21 MR. KELLAHIN: Any size you like.

22 EXAMINER STOGNER: Okay. Mr. Carr, your witness.

23 CROSS-EXAMINATION

24 BY MR. CARR:

25 Q. Ms. Colby, let's look at Exhibit Number 1.

1 If I understand this exhibit, what you're
2 testifying to is that if Richardson is successful, that the
3 wells will in fact be located on the existing well pads in
4 the west half of that section?

5 A. That is what our proposal is.

6 Q. And that those wells would then be located, then,
7 on the pads that were constructed by Amoco for the drilling
8 of Dakota wells in that acreage?

9 A. They would be on the existing well pads and
10 within a distance to minimize any interference with Amoco's
11 current operations.

12 Q. Have you staked a location out there yet?

13 A. No, we have not.

14 Q. Do you know that the Amoco-proposed location has
15 in fact been staked? Did you know that?

16 A. No, I did not.

17 Q. In essence, though, we're all proposing to drill
18 the wells at approximately the same location; isn't that
19 right?

20 A. Well, Amoco's footages proposed were very close
21 to their existing wells, 28 feet, 52 feet away. We're
22 proposing to get a distance much greater than that.

23 Q. Are you, or are you just proposing to be anywhere
24 within that 200 radius?

25 A. We're proposing a location that would work for

1 all parties.

2 Q. And you're saying -- Is it your testimony that
3 the Amoco location will not?

4 A. I don't know about the Amoco location.

5 Q. Is there, to your knowledge, any disagreement
6 between the parties as to where these wells should be
7 drilled? Is that an issue in this case?

8 A. I don't believe geologically that it's an issue.

9 Q. Okay, I'm just trying to find out what we're not
10 going to be fighting about.

11 A. Okay.

12 Q. If we look at Exhibit Number 2, was this plat
13 prepared by you?

14 A. Yes, sir.

15 Q. And basically this shows Fruitland Coal and
16 Pictured Cliffs development in the portion of the Basin
17 that's at issue in this case; is that right?

18 A. Yes, sir.

19 Q. You would agree with me, would you not, that
20 Amoco, in fact, operates hundreds of Pictured Cliff wells
21 in the Basin?

22 A. I believe they do. I don't know for a fact.

23 Q. But they have drilled a number of wells in the
24 Basin? You would agree with me that Amoco has, correct?

25 A. I believe so.

1 Q. We're not making a suggestion here that, if Amoco
2 should prevail, that they don't have the ability to drill
3 the Pictured Cliff in the Fruitland-Pictured Cliff well?
4 That's not what you're suggesting, is it?

5 A. I'm not suggesting anything.

6 Q. And you're not suggesting that they don't have
7 the ability to produce and to operate the well if they were
8 awarded the operatorship in this proceeding?

9 A. This map is a mere representation of the wells
10 that Richardson has drilled, and I tried -- I attempted to
11 show the progression of our activity in this immediate area
12 while I was putting together that information.

13 I attempted to also represent Amoco's current
14 operations or drilling in the immediate area, and was
15 unable to find some.

16 That's the extent of what I tried to represent on
17 this map.

18 Q. And when you say Amoco's operations, you were
19 limiting that to Pictured Cliffs and Fruitland Coal, were
20 you not?

21 A. That's correct.

22 Q. Because if we go in the nine sections around the
23 area of interest, there are a number of squares, are there
24 not?

25 A. Right, Dakota wells.

1 Q. Those are Dakota wells?

2 A. Right.

3 Q. Would you agree with me that in excess of 20 of
4 those wells in the offsetting nine sections are Amoco-
5 operated Dakota wells?

6 A. I have no idea on the Dakota wells.

7 Q. Do you know if Amoco operates any Dakota wells
8 within the nine sections offsetting the acreage?

9 A. I am aware of the two Dakota wells in the west
10 half of Section 12 that Amoco operates.

11 Q. And do you have any idea of who any of those
12 other Dakota wells are drilled or -- have been drilled or
13 operated by?

14 A. I have not looked at any of the Dakota wells.

15 Q. Okay. So when we prepared this exhibit, we were
16 only looking at certain formations, not all operations in
17 this portion?

18 A. That is correct.

19 Q. If I look at your Exhibits 3, 4 and 5, it's
20 essentially an ownership breakdown in the various spacing
21 units that would be dedicated to the wells at issue in this
22 case, right?

23 A. Yes, sir.

24 Q. And the only interest that you now say is not
25 committed to Richardson is that of Kerr-McGee Corporation;

1 is that right?

2 A. Oh, you could put it another way. You could say
3 that if Richardson was selected to operate these two
4 proposed wells, that Amoco would be the only one that would
5 not be supportive.

6 Q. Has Kerr-McGee agreed to participate in the well?

7 A. They have agreed to assign their interests to
8 whichever operator the Commission chooses.

9 Q. So it is your opinion that there is no need to
10 include them in the pooling action?

11 A. That is correct.

12 Q. If they decline to assign later, then of course
13 that interest would be outstanding as to Richardson, and
14 you'd have to come back and pool them again?

15 A. Yes.

16 Q. In the southwest quarter, with all the interest
17 owners committed to Richardson that are not committed to
18 Amoco, we have a 50-50 split in the working interest
19 ownership; is that not right?

20 A. For the Pictured Cliffs, that is correct.

21 Q. And if we go to the west-half unit for the
22 Fruitland Coal and we credit everything in the west-half
23 unit to Richardson that isn't committed to Amoco, Amoco has
24 66.6 percent and Richardson has the balance of that --

25 A. That is correct.

1 Q. -- which would be 33 percent, with some
2 percentage fraction after that?

3 A. That is correct.

4 Q. And if we go to the northwest quarter, based on
5 your numbers, and credit all interests other than Amoco to
6 Richardson, Amoco still has 83.38 percent of the working
7 interest in the tract?

8 A. That is correct.

9 Q. And if they didn't participate in the northwest
10 quarter, you would be carrying them to the tune of 83.38
11 percent?

12 A. That is correct.

13 Q. And that is a decision that Richardson believes
14 is an appropriate decision, based on their knowledge of the
15 area?

16 A. Yes.

17 Q. And the risk involved in the well?

18 A. Yes.

19 Q. If we take a look at your Exhibit Number 6, this
20 is a chronology similar to that provided by Ms. Jenkins
21 concerning the contacts between the parties concerning the
22 development of the acreage; is that right?

23 A. Yes, sir.

24 Q. And if I look at the first three entries on this
25 exhibit, November, 1993, through December, 1993 --

1 A. January, 1993?

2 Q. I'm sorry, January, 1993, through December, 1993,
3 those were negotiations for a property exchange; is that
4 right?

5 A. They were actually more than a property exchange.
6 They weren't a property exchange at all.

7 Q. They were all involved with acquisition of
8 property rights, as opposed to proposing the drilling of
9 any particular well; is that not fair?

10 A. Yes, I confused your term "property exchange"
11 with "acreage trade".

12 Q. And my "property exchange" term was probably
13 confusing.

14 But prior to December of 1993, those all talked
15 about property or exchanges or acquisitions, as opposed to
16 drilling of wells?

17 A. Right -- Well, no, because we did offer to farm
18 out. That's a proposal to drill a well.

19 Q. Did you propose any particular well location?

20 A. No.

21 Q. If we take the December, 1993, date and we go
22 down to, I guess, February of 1995, I thought I understood
23 you to say you had been instructed by legal counsel not to
24 communicate with Amoco; is that right?

25 A. Yes.

1 Q. So we have a 14-month break in the negotiations
2 on this property that were the result of some other dispute
3 not related to this tract; is that correct?

4 A. That's correct.

5 Q. And then you received -- That long silence was
6 broken 14 months after it terminated, when you got a
7 specific well proposal from Amoco?

8 A. Yes.

9 Q. Okay. If I look at the operating agreements that
10 are your Exhibits 7 and 8, do you recall receiving a
11 request from Ms. Jenkins for a copy of the operating
12 agreement on March 7th of this year?

13 A. I recall her testifying that earlier today. I do
14 not recall a conversation where she asked for an operating
15 agreement.

16 I do know that in our well proposals we
17 specifically said that operating agreements would be
18 furnished upon written request by any party.

19 Q. To your knowledge, was a copy of the operating
20 agreement that Richardson was proposing ever provided Amoco
21 prior to this time?

22 A. No.

23 Q. Now, when you got the -- You received an
24 operating agreement from Amoco, did you not?

25 A. Yes, we did.

1 Q. And did you receive that on or about February the
2 16th, as reported or testified to by Ms. Jenkins and as
3 shown on her chronology?

4 A. The operating agreement was attached to their
5 well-proposal AFE.

6 Q. And would that have also contained in that
7 operating agreement their overhead and administrative
8 costs?

9 A. Yes.

10 Q. And was it after that date that you actually
11 filed for hearing and announced what your overhead and
12 administrative costs would be for a well on this tract?

13 A. Yes, it was.

14 Q. So your operating costs or your overhead costs
15 were less, but they were proposed and developed a month
16 after you had received those from Amoco?

17 A. That is correct. And in addition, they're the
18 same that we use on our wells in the east half of Section
19 12.

20 Q. And when you proposed them, you already knew what
21 the Amoco proposal was and that you had conflicting
22 proposals; isn't that right?

23 A. Yes.

24 Q. Okay. Now, I believe you said that you reviewed
25 this operating agreement for Mr. Richardson; is that

1 correct?

2 A. Yes, sir.

3 Q. And that there were certain matters in the
4 operating agreement that were unacceptable to you?

5 A. Yes, sir.

6 Q. Now, you were concerned about Article V., D-8.
7 That was one of the things you identified; isn't that
8 right?

9 A. Yes.

10 Q. You also indicated there was a missing page?

11 A. Yes.

12 Q. Did you contact Amoco to discuss the provisions
13 of Article V., D-8?

14 A. No, I didn't. When we got that, we were told
15 that Amoco would respond in writing to our AFE and well
16 proposal.

17 The next thing we got was notification by a copy
18 of a letter to the Commission that we were being force-
19 pooled. We felt that we were put in an adversarial
20 position.

21 Q. And my question was, you didn't contact Amoco
22 about any of the provisions in this agreement with which
23 you disagreed?

24 A. We had no contact with Amoco from that point.

25 Q. There was a missing page. You decided not to

1 call them and ask that they send you the missing page?

2 A. That's correct.

3 Q. And wouldn't that be a normal procedure for you
4 in evaluating an agreement with another company that you
5 might be in some sort of a joint venture with?

6 A. It depends on if we're in an adversarial position
7 or not, whether I make contact with them.

8 Q. Had your attorneys told you not to communicate
9 with Amoco about the operating agreement?

10 A. Our attorney, Mr. Kellahin, had advised that we
11 not communicate with Amoco.

12 Q. And if you've been advised by your counsel not to
13 talk to Amoco about this development for 14 months in 1993
14 and 1994 and again since this proceeding developed, is it
15 your position that you're trying to voluntarily negotiate
16 something with Amoco?

17 MR. KELLAHIN: Objection, that's argumentative,
18 Mr. Examiner. Come on.

19 MR. CARR: I think the dates and the testimony of
20 this witness will show whether or not there, in fact, was a
21 Richardson good-faith effort to reach an agreement with
22 Amoco --

23 MR. KELLAHIN: If he wants to make his argument,
24 he may do so at closing and not with my witness, with
25 argumentative questions, Mr. Examiner.

1 EXAMINER STOGNER: Do you want to restate the
2 question, Mr. Carr?

3 Q. (By Mr. Carr) I want to be sure that I
4 understood you. You were told by your counsel not to
5 discuss the operating agreement with Amoco?

6 A. No, I meant to say, if I didn't say it clearly,
7 that we were told by our counsel not to discuss the --
8 anything with Amoco once we had received the letter
9 informing us that we were going to be force-pooled. At
10 that point, all voluntary negotiations did stop.

11 Q. At this point in time, no matter what happens in
12 this hearing, is it Richardson's position that voluntary
13 negotiations are over?

14 A. We would like to voluntarily make a satisfactory
15 arrangement with Amoco before we stop talking to Amoco.

16 I told Greg Grotke that we would very much like
17 for Amoco to participate, and we still are of that belief
18 today.

19 Q. And how could we accomplish that if you've been
20 instructed not to talk?

21 A. Well, that's why we're here.

22 Q. I have no further --

23 A. Amoco requested --

24 Q. I have no further questions.

25 A. -- that we talk before the Commission. That's

1 why we're here.

2 Q. And that's the only place it's your understanding
3 that you may negotiate this or talk about it?

4 A. As I said, we felt that we were put in an
5 adversary position when Amoco sent us notice that we were
6 being force-pooled.

7 Q. And my question is, does that mean that there is
8 no hope at this point for the parties to talk to each
9 other?

10 MR. KELLAHIN: Objection, Mr. Examiner.

11 MR. CARR: I'm just --

12 MR. KELLAHIN: It's irrelevant at this point.

13 MR. CARR: I am inquiring -- I don't think it is
14 irrelevant.

15 Parties reach voluntary agreement after pooling
16 orders are entered all the time, and my inquiry is whether
17 or not the door has been closed and stays closed.

18 MR. KELLAHIN: Witness has already responded to
19 Counsel, Mr. Examiner.

20 EXAMINER STOGNER: I believe she already has.

21 MR. CARR: That the door is closed? Is that what
22 I --

23 EXAMINER STOGNER: I believe that she's already
24 answered the question.

25 MR. CARR: All right, I have no further questions

1 of this witness.

2 EXAMINER STOGNER: Any redirect?

3 MR. KELLAHIN: No, sir.

4 EXAMINER STOGNER: Mr. Carroll?

5 I don't believe I have any questions at this
6 point either.

7 MR. KELLAHIN: I'd like to call my next witness,
8 Mr. Examiner. My next witness is Mr. David Richardson.

9 DAVID B. RICHARDSON,

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

12 DIRECT EXAMINATION

13 BY MR. KELLAHIN:

14 Q. Mr. Richardson, for the record would you please
15 state your name and occupation?

16 A. David Richardson. I'm a petroleum geologist. I
17 am the owner of Richardson Operating Company.

18 Q. And where do you reside, sir?

19 A. Cherry Hills Village, Colorado.

20 Q. Summarize for us your education.

21 A. I obtained a bachelor of science from the -- in
22 geology, from the University of Oklahoma in 1978.

23 Q. Describe for us -- Give us a quick summary of
24 Richardson Operating Company.

25 A. It was formed in -- initially in 1980. I was an

1 employee of Amoco briefly, and Western Geophysical.

2 I started my own company in 1980 as Richardson
3 Oil Company. It evolved into Morgan-Richardson Operating
4 Company, and I subsequently purchased the entire company in
5 1990.

6 Q. Describe for us your geologic play in the
7 Pictured Cliff and the Fruitland Coal Gas Pool in the San
8 Juan Basin of New Mexico.

9 A. Initially, we drilled approximately 20 wells,
10 about 30 miles southeast of this area in the Largo Canyon
11 area.

12 In 1992 we obtained a farmout and drilled seven
13 wells in the Fruitland Coal, shallow wells, approximately
14 1500 feet, just east of the prospect area. All the time we
15 had been moving further west to our current location.

16 Q. What's the vintage of your development in the
17 east half of this Section 12 we've been discussing?

18 A. Recently, it's been in 1994.

19 Q. As a geologist and as a CEO of your own company,
20 do you also employ other geologists to provide you
21 information and to consult with you about how to further
22 develop the Pictured Cliffs?

23 A. Yes, I do.

24 Q. And are we about to look at some of that type of
25 information?

1 A. Yes, we are.

2 Q. Is this the same kind of information that you
3 would use to develop these wells in these well locations,
4 regardless of a dispute with Amoco?

5 A. Yes.

6 Q. If you're making decisions in this area for
7 drilling wells, then this is the type of information you
8 look at?

9 A. Yes.

10 Q. Do you drill these wells for your own company, or
11 are you doing this in some kind of promotional prospect
12 with other people's money?

13 A. No, I don't take investors; I drill with my own
14 money.

15 Q. Let's turn to Exhibit A.

16 A. Okay.

17 Q. I'm sorry, I --

18 A. Exhibit 11.

19 Q. -- misidentified the exhibit.

20 Exhibit 11, it's the cross-section, if you'll
21 unfold that before you.

22 I think it may be useful to just show all three
23 displays at the same time, Mr. Richardson. I think it will
24 help us. If you'll unfold Exhibit 11, and then let's use
25 Exhibit 12 and 13 by which to understand what you're trying

1 to do.

2 A. Okay.

3 Q. Have you independently reviewed this
4 information --

5 A. Yes.

6 Q. -- in terms of its geology?

7 A. Yes, I have.

8 Q. And based upon that review, you have come to your
9 own conclusions and recommendations?

10 A. Yes.

11 MR. KELLAHIN: At this time, Mr. Examiner, we
12 tender Mr. Richardson as an expert petroleum geologist.

13 EXAMINER STOGNER: Are there any objections?

14 MR. CARR: I have no objection.

15 EXAMINER STOGNER: Mr. Richardson is so
16 qualified.

17 Q. (By Mr. Kellahin) In this area, let's take
18 Exhibit 11 and have you show us the line of cross-section,
19 insofar as it affects Section 12 --

20 A. Okay.

21 Q. -- so the Examiner can see where these well logs
22 relate to the surface.

23 A. Okay, you should probably refer to either Exhibit
24 12 and 13 to look at where the cross-section goes.

25 Starting from the left-hand side, A', it's --

1 Let's see, if you look on the Exhibit 12, you see A' is in
2 the southeast quarter. That's a well -- a Richardson
3 Operating Company, 12-1 well, that is a Pictured Cliffs
4 well we drilled in March of 1994.

5 And the northeast quarter is a commingled
6 Fruitland Coal and Pictured Cliffs well.

7 As you go further to the west, now, you get into
8 an Amoco Dakota well, and in the southwest quarter is
9 another Dakota well operated by Amoco.

10 Q. Did you use this type of information when you
11 developed your prospect and drilled your wells in the east
12 half of this section?

13 A. Yes, I did.

14 Q. Give us a sense of the relationship between the
15 coal that's productive in your well and the Pictured Cliff
16 that is productive in that well. If we look at the cross-
17 section, can you show us where the vertical relationship is
18 in those two reservoirs?

19 A. Yes, in our two wells it's located between 1400
20 and 1550 feet. There's a separation of about 10 feet of
21 shale between the two zones.

22 Q. What is your recommendation for the development
23 of the west half of Section 12, the disputed spacing units?

24 A. In the west half of Section 12, I feel, in the
25 northwest quarter, because of the spacing of the Fruitland

1 Coal on 320s, that should be a Pictured Cliffs well. In
2 the southwest quarter it should be a commingled Fruitland
3 Coal and Pictured Cliffs test.

4 Q. Describe for us how you reached the conclusion
5 to make the coal gas well the one in the southwest quarter.

6 A. That's state spacing.

7 Q. All right. Other than the state spacing, is
8 there a geologic difference that matters when you compare
9 those two 160s?

10 A. No.

11 Q. So you could stay on pattern with the rule and
12 still maximize your geologic objective in the coal?

13 A. Yes.

14 Q. Describe for us the isopachs. When we look at
15 Exhibit 12, you have isopached what, sir?

16 A. This is the Fruitland Coal in the entire section.

17 Q. Do you find that there is sufficient coal
18 thickness in this coal that it has been productive in the
19 east half?

20 A. Yes.

21 Q. Describe for us the kind of rates that you're
22 getting in the east half of the section in the coal.

23 A. Approximately 600 MCF a day, and I believe 40
24 barrels of water. That's commingled between the Pictured
25 Cliffs and the Fruitland Coal.

1 Q. All right. So as an operator, in addition to
2 being a geologist, there is a water component to deal with
3 here?

4 A. Yes, there is.

5 Q. In what reservoir?

6 A. Both of them.

7 Q. All right. When you look at the isopach for the
8 Pictured Cliff, Exhibit Number 13, what does it show you in
9 terms of well locations?

10 A. Again, it shows that Pictured Cliffs is --
11 throughout the section, it varies between 30 and 45 feet in
12 thickness, but we could expect the same Pictured Cliffs in
13 the west half of the section as the east half.

14 Q. In terms of risk, Mr. Richardson, can you
15 quantify the degree of risk for the Pictured Cliffs wells
16 in this area?

17 A. Geologically, very, very small, less than five
18 percent.

19 Q. In terms of the geologic risk involved with the
20 Coal side, what is the geologic risk involved there?

21 A. Very, very small again, less than five percent.
22 Maybe less than one percent.

23 Q. In terms of a percentage, the Examiner is
24 required under the pooling procedures to make a decision
25 about risk, and he has the authority to award a risk factor

1 penalty --

2 A. Yes.

3 Q. -- to be applied against any working interest
4 owner which elect not to participate under the pooling
5 order. Do you understand that concept?

6 A. Yes.

7 Q. Within that concept and within those percentages,
8 the Division has a maximum of 200 percent.

9 A. Yes.

10 Q. Within that range, do you have a recommendation
11 to the Examiner of where you would place that risk if you
12 are allowed to operate these two wells?

13 A. I would say less than 200 percent.

14 Q. All right. Can you more specifically recommend
15 to him what you would propose?

16 A. 150 percent.

17 Q. And that would be in addition to the cost
18 attributable?

19 A. Yes.

20 Q. And would that be a number that you would apply
21 to both reservoirs?

22 A. Yes.

23 Q. All right. And that is a recommendation with
24 knowledge that your original application had asked for the
25 maximum?

1 A. Yes.

2 Q. Okay. In reflection and in review, you say 150
3 percent is appropriate?

4 A. Yes.

5 Q. In your capacity as president of your company,
6 did you examine and review Amoco's proposal for their two
7 wells?

8 A. Yes.

9 Q. In their two proposals, the February 14th
10 letters, those proposals specified only completions in the
11 Pictured Cliff formations, did it not?

12 A. Yes.

13 Q. Was that an issue of concern to you?

14 A. Yes, it was.

15 Q. And why was that?

16 A. We were leaving significant reserves behind pipe.

17 Q. And what would you do?

18 A. Commingle both zones and produce them at the same
19 time.

20 Q. Other than the well proposal itself, in terms of
21 the formations it accessed, did you have any disagreement
22 with regards to any other portion of their proposal?

23 A. Yes, I did.

24 Q. What ultimately did you conclude to do about
25 their proposal?

1 A. I could not participate on a voluntary basis.

2 Q. And for what reasons, sir?

3 A. Several reasons. The first one, probably the
4 most important to me, is, we are currently developing this
5 area, we have two wells in the same section. It's a
6 residential and commercial area; it's a difficult area to
7 work.

8 We have experience with the landowners, with Mr.
9 Dugan, several doctors live in there. It's not easy, but
10 we've done it, and we've had good rapport with them. And
11 we feel as though we're qualified, we've been successful
12 dealing with them and minimizing the disturbance of the
13 area.

14 Q. When you received the Amoco proposal, it included
15 a proposed AFE for their wells, did it not?

16 A. Yes.

17 Q. Did you have any reaction to their proposal in
18 terms of their costs?

19 A. Yes, I did.

20 Q. How did you go about analyzing that information?

21 A. Through wells that we had actually drilled next
22 door.

23 Q. For your own information, you had that data?

24 A. Yes, we not only had an AFE, we had actual cost.

25 Q. And how did their AFE compare to your actual cost

1 experience in the adjoining spacing units?

2 A. Significantly higher.

3 Q. In addition to your own judgment on those
4 matters, do you employ engineers and consultants that have
5 expertise in that area to make those kinds of judgments and
6 recommendations to you?

7 A. Yes, I do.

8 Q. And did you do that in this case?

9 A. Yes, I did.

10 Q. And were those recommendations consistent with
11 your own conclusion?

12 A. Yes, they were.

13 Q. Other than the AFE proposed by Amoco, were there
14 any other aspects about their proposal that caused you to
15 reject their proposal?

16 A. Their overhead costs and their operating costs
17 were significantly higher than ours.

18 Q. And how do you know that, sir?

19 A. Our own experience with them in the past on
20 several projects. I've been involved with Amoco before.

21 Q. What do you propose to do if the Division allows
22 you to operate these wells, Mr. Richardson?

23 A. Well, we maintain one overhead cost, we don't
24 charge a district expense, we don't charge vacations,
25 sicknesses. It's one expense, one overhead cost.

1 Q. In terms of having the impact of your cost
2 proposal compared to the Amoco impact of cost proposals,
3 have you retained the assistance of an expert in that area?

4 A. Yes, we have.

5 Q. And what's the name of the lady that's done the
6 consulting work for you to make that comparison?

7 A. Dana Delventhal.

8 Q. And Ms. Delventhal has experience, based upon
9 your knowledge, in providing you with that kind of
10 information?

11 A. Yes, she has.

12 Q. And has her work in the past proved to be
13 accurate and reliable, based upon your knowledge and
14 experience?

15 A. Yes, it has.

16 MR. KELLAHIN: That concludes my examination of
17 Mr. Richardson.

18 We move the introduction of his exhibits, which
19 are marked 11, 12 and 13.

20 EXAMINER STOGNER: Are there any objections?

21 MR. CARR: No objection.

22 EXAMINER STOGNER: Exhibits 11, 12 and 13 will be
23 admitted into evidence.

24 Thank you, Mr. Kellahin.

25 Mr. Carr, your witness.

1 MR. CARR: I have no questions of this witness.

2 EXAMINER STOGNER: Mr. Kellahin, what's your
3 other two witness's expertise?

4 MR. KELLAHIN: Dana Delventhal is an expert in
5 drilling AFES and actual costs, and she has analyzed the
6 two AFES for you, and she has a comparison to demonstrate
7 the cost components and has reached some engineering
8 conclusions to demonstrate that there is substantially
9 prolonged life and additional recovery if Richardson
10 operates, and that's the purpose of her testimony.

11 EXAMINER STOGNER: I was just -- You have an
12 engineer and --

13 MR. KELLAHIN: And Mr. Rod Markham is one of the
14 interest owners, which both sides were attempting to obtain
15 his consent, and he is here as a third party to testify as
16 to his preference in terms of an operator.

17 EXAMINER STOGNER: Okay, I just wanted to see
18 where we're heading on that.

19 Do you have any questions of this witness?

20 MR. CARROLL: No, I don't.

21 EXAMINER STOGNER: I don't at this time either,
22 unfortunately -- fortunately.

23 Let's take a ten-minute recess.

24 (Thereupon, a recess was taken at 4:33 p.m.)

25 (The following proceedings had at 4:50 p.m.)

1 EXAMINER STOGNER: Hearing will come to order.

2 Mr. Kellahin?

3 MR. KELLAHIN: Mr. Examiner, at this time I'd
4 like to call Ms. Dana Delventhal. She spells her last name
5 D-e-l-v-e-n-t-h-a-l.

6 DANA L. DELVENTHAL,

7 the witness herein, after having been first duly sworn upon
8 her oath, was examined and testified as follows:

9 DIRECT EXAMINATION

10 BY MR. KELLAHIN:

11 Q. Ms. Delventhal, for the record would you please
12 state your name and occupation?

13 A. Dana Delventhal, and I'm a consulting petroleum
14 engineer.

15 Q. On prior occasions have you testified in that
16 capacity as a consulting engineer before this agency?

17 A. Yes, I have.

18 Q. And where do you reside?

19 A. In Farmington, New Mexico.

20 Q. Summarize for us your employment experience.

21 A. I'm a 1981 graduate of the New Mexico Institute
22 of Mining and Technology.

23 I've worked in the petroleum industry out of
24 Farmington, New Mexico, since that time, and I've currently
25 had our own consulting company since 1985.

1 Q. As part of your consulting work, do you on a
2 regular basis make cost analyses and recommendations for
3 your clients for the drilling of Pictured Cliffs and
4 Fruitland Coal gas wells?

5 A. Yes, I do.

6 Q. How do you go about preparing yourself to make
7 that type of analysis?

8 A. We're active in the drilling and completion of
9 wells, so we have actual cost experience. We also
10 participate in the drilling and completion of wells and
11 evaluations of such.

12 Q. Are you familiar with the drilling mechanics and
13 the various elements and components for drilling a single-
14 completion PC well and/or a PC well that's commingled with
15 the coal gas?

16 A. Yes, sir.

17 Q. As part of your consulting work, do you also make
18 cost comparison analysis using the kinds of things that Mr.
19 Grotke and Mr. Hawkins did?

20 A. Yes, we do evaluate different completion methods,
21 methodology and costs associated with such, so that when we
22 do make a recommendation for the drilling of a well, that
23 we have picked the optimum method.

24 Q. So when Mr. Hawkins talked about Amoco's proposal
25 that this well might be a slimhole candidate, you

1 understood what that all meant?

2 A. Yes, sir.

3 Q. And when he talked about the use of a coiled-
4 tubing procedure for this well in terms of the way it was
5 equipped, that meant something to you?

6 A. Yes, sir.

7 Q. As part of that consulting work with that
8 background of experience and knowledge, did you perform
9 such services for Mr. Richardson?

10 A. Yes, I do make recommendations.

11 Q. And have you made an analysis of the data by
12 which to make such a recommendation to Mr. Richardson?

13 A. Yes, sir.

14 MR. KELLAHIN: We tender Ms. Delventhal as an
15 expert petroleum engineer with expertise in analyzing and
16 reviewing and comparing AFEs with actual well costs.

17 EXAMINER STOGNER: Any objections?

18 MR. CARR: No objection.

19 EXAMINER STOGNER: Ms. Delventhal is so
20 qualified.

21 Q. (By Mr. Kellahin) Before we get into the parts
22 of your documents, let me ask you your impressions and
23 conclusions about the type of well program that Amoco has
24 proposed, as related to the Examiner through Mr. Hawkins's
25 testimony.

1 A. It's interesting. Slimhole completions have been
2 used in the PC in the San Juan Basin extensively since the
3 Fifties. Generally, it's a completion method designed for
4 low-ultimate-recovery gas reservoirs which are dry, in an
5 effort to save initial investment and therefore be able to
6 justify completing those reserves.

7 The problem that I see with that technology as
8 applied in this case is that, one, generally slimholes were
9 drilled with conventional drilling rigs or drilling
10 technology. The coiled tubing is somewhat new, and there
11 are some risks associated. If you had a very high cost
12 savings to offset such risks, it might be worth
13 contemplating.

14 And the second problem in this area, generally
15 Pictured Cliffs wells are dry, oftentimes not even
16 requiring surface separation. However, in this area the
17 Pictured Cliffs is for the most part fairly water-
18 productive, and a slimhole completion would not facilitate
19 the natural flow of this type of well.

20 Q. As that program was described through Mr.
21 Hawkins's testimony as to Amoco's proposal, do you have an
22 opinion as to whether that well could be constructed in
23 that fashion?

24 A. I see several problems, the worst problem being
25 that 3-1/2-inch casing with 2-3/8-inch tubing, both strings

1 being standard, will not fit.

2 Q. What would the operator have to do?

3 A. Well -- Let me figure out the numbers here. The
4 drift diameter of 3 1/2 is roughly 2.9 inches. The OD of 2
5 3/8 standard tubing at the coupling is over 3 inches. The
6 one option would be to mechanically slim down those
7 couplings. But then you have a risk of tubing failure.

8 Then again, the natural flow of these wells --
9 They're not an artificial lift, they're capable of flowing
10 this water production on compression. The annular space
11 would be negligible, and you would lose quite a bit of lift
12 capacity, even if you machined down the couplings.

13 Q. Have you proposed to Mr. Richardson how this
14 particular well ought to be drilled and completed?

15 A. I would drill and complete it as a standard gas
16 well.

17 Q. Have you previously testified before the agency
18 concerning the downhole commingling allocation formula and
19 the approval of downhole commingling for the PC and the
20 coal gas for the well in the other half of this same
21 section?

22 A. Yes, I have.

23 Q. That was your work, and you testified before this
24 agency?

25 A. Yes.

1 Q. Have you performed a similar analysis for this
2 well in the west half of the section?

3 A. Yes, I have.

4 Q. And do you have recommendations for the Examiner
5 about the downhole commingling procedure for this well?

6 A. Yes, I recommend that it be downhole commingled
7 and that the engineering data will substantiate that.

8 Q. All right. Let's start with the well-comparison
9 work that you have done in terms of comparing well costs,
10 as proposed by the two operators.

11 If you'll start with what we've marked as Exhibit
12 Number 15.

13 A. Okay, the AFE comparison that we have before us
14 is a comparison of the Richardson AFE and the Amoco AFE,
15 much as Mr. Hawkins has done.

16 I've also added the one other additional column
17 of Richardson's actual spending. I guess we're all aware
18 that AFEs can be inaccurate, and our first concern when we
19 received the Amoco AFE was that perhaps our AFE was not in
20 line.

21 What I've got on the first column -- and I'll be
22 as concise as possible -- if you look at the total at the
23 bottom, the Richardson AFE for the stand-alone Pictured
24 Cliffs well is roughly \$152,000.

25 Our actual 12 Number 1 Pictured Cliffs well,

1 which is within a half a mile, actual costs came in at
2 \$123,000. So we were roughly 20 percent under budget.

3 As Mr. Hawkins pointed out, our AFE did not
4 include capital compression costs and theirs did, in the
5 amount of \$30,000.

6 Q. What did you do to reconcile that difference?

7 A. To put everything on as fair a basis as possible,
8 we subtracted out the \$30,000 from their AFE estimate. If
9 you take \$30,000 from their original \$216,000, you see the
10 comparison at \$186,000, under Amoco's scenario.

11 Again, I assumed that their AFE was diligently
12 prepared and that they feel that they can drill and
13 complete a coiled-tubing-type completion for that type of
14 money.

15 Based off of the AFE differential, there's a 22-
16 percent differential. But comparing our actual costs to
17 their AFE costs, their AFE is about 51 percent higher. And
18 I would have liked to have had some comparison of the
19 actual spending of an Amoco-drilled coiled tubing, but that
20 information wasn't available.

21 Q. When we look at the bottom line on Exhibit 15,
22 the \$186,000 attributable to the Amoco already has the
23 \$30,000 compression cost deleted from their AFE?

24 A. That's correct, so that we're comparing apples
25 with apples.

1 Q. Okay. Let's go through this in terms of major
2 items of difference to you as an expert.

3 When you look at the drilling portion, you get
4 down to the subheading B. It says "Drilling". And looking
5 through those components, there's a subtotal?

6 A. Correct. The largest areas of difference are
7 between the drilling costs in which their estimate is
8 roughly \$45,000, and our drilling cost history shows around
9 \$18,000.

10 Our drilling rig, generally we get on a footage
11 basis, so it's essentially risk-free to the working
12 interest owners.

13 Q. Show us other items of major difference.

14 A. The downhole completion, which I think now we've
15 come to agreement that that \$20,000 differential -- Perhaps
16 their AFE has been overstated or they're agreeing now that
17 they can complete and stimulate less expensively.

18 Q. As you have analyzed the comparisons of AFEs,
19 have you itemized completion rig cost factors?

20 A. As well as we could. Again, the actual
21 categorization off of the AFEs is a bit subjective. I put
22 them in as best we could, and some detail is not there.

23 But yes, there is a completion day work figure on
24 their AFEs.

25 Q. In the comments section on the far right side of

1 the comparison, you have made various notes at other points
2 to identify for the Examiner matters of difference.

3 A. They're definitely matters of concern to us. The
4 day work figure of \$2100 does not allow much time. And
5 again I assume that they've been diligent, but our
6 experience has been that some of these costs are probably
7 going to be significantly higher.

8 Q. Describe -- Mr. Hawkins addressed the contingency
9 method used by Amoco, and I think you heard that testimony.
10 You have looked at the contingency components of the
11 components of the AFEs, and you have them analyzed on this
12 exhibit, do you not?

13 A. That's correct.

14 Q. Describe for us what you have concluded.

15 A. Generally, the 15-percent contingency used by
16 Amoco is not unusual in the industry in general.
17 Generally, it's based off of a percentage.

18 Again, those contingencies have a tendency to
19 materialize during the drilling and completion of wells.

20 Generally through Richardson and the AFEs we
21 generate and our charges, we don't use as high of a
22 contingency basis. We try to actually categorize those
23 anticipated costs ahead of time. So our contingencies are
24 less. But basically, it's the bottom line on the AFE that
25 matters.

1 Q. The Examiner is here to listen to recommendations
2 on how to decide matters of difference by which he can
3 ultimately decide who operates. Is there a difference
4 between this AFE that is a difference to you?

5 A. Yes, actually there's a large matter of
6 difference, both to the working interests and to the
7 royalty owners.

8 Generally, both the -- the economics of the
9 project and the ultimate recovery are tied to the initial
10 investment and the overhead charges throughout the life of
11 the well, and in this case it's significantly different.

12 Q. And in a later display, you have attempted to
13 calculate or to quantify the magnitude of that difference
14 in terms of its effect on the life of the wellbore and on
15 ultimate gas recovery?

16 A. That's correct. And the other thing I would like
17 to bring out is that basically my assumptions and my
18 comparisons and the differentiation between operating and
19 drilling these wells, I've held both the risk and the well
20 results constant between ROPCO and Amoco.

21 I am concerned, if they should pursue a coiled-
22 tubing-type completion, that there should be additional
23 risk factors assigned into there, versus a standard gas
24 well typical completion.

25 Q. Let's turn to Exhibit 16 and have you describe

1 what you've done when you have made a comparison for the
2 well in the southwest quarter of 12.

3 A. This comparison is identical in scope to the
4 first, except for this is for the well in the southwest
5 quarter, which is assumed to be a commingled Pictured Cliff
6 Fruitland Coal well.

7 The only other item of note is, with Amoco's
8 proposal, if for some reason their well did not qualify or
9 they were not able to get downhole commingling requirements
10 met, they would not be able to dual complete in 3-1/2-inch
11 casing.

12 It's been our philosophy to go ahead and set
13 casing large enough for a dual completion so that if such
14 were the case, we would not have to eliminate the Fruitland
15 Coal side of the completion.

16 Q. When you look at the components of difference in
17 this comparison, describe for us what they are.

18 A. Generally, the components of difference are
19 fairly similar.

20 We have a difference in our drilling estimates.
21 Again, we use a standard footage rate.

22 The completion again is different.

23 And there's contingency money, you know, that
24 varies, much like the first completion.

25 Q. When you get to the bottom line and you take off

1 the compression costs for the Amoco AFE, what is still the
2 net difference?

3 A. There's still quite a significant difference.
4 Generally, our AFE was for \$194,000. The dual within half
5 a mile, the actual well costs came in at \$177,000. We were
6 10 percent under budget.

7 Their AFE is for roughly \$231,000.

8 So based off of the AFE values, they're 20
9 percent higher. And based off of actual experienced
10 drilling costs, they vary by 31 percent.

11 Q. In your opinion, will compression be required in
12 this well?

13 A. We anticipate that it is.

14 Q. In order to take that cost factor into
15 consideration in the AFEs, have you analyzed the net result
16 of the inclusion of compression?

17 A. Yes, I have. Compression, we deem, will be
18 required. Generally, it's not in the original AFE because
19 we're not sure of the size or what size of compressor would
20 be needed.

21 Generally, we'll rent a compressor for the first
22 few months' worth of production on the well and then size
23 after at that point.

24 Q. Is it a flaw in the Richardson AFEs not to have
25 an item for compression?

1 A. I don't believe so. The operating agreement has
2 spending authorities, and each working interest owner would
3 have their fallbacks through the operating agreement, if we
4 were to AFE for compression at a later date.

5 Q. Under different case examples, have you assumed
6 compression for this well for both costs by either operator
7 and shown the impact of the total well cost, of ultimate
8 recovery?

9 A. I have. What I've tried to do is make an
10 economic comparison and see what the results are to the
11 working interest owners as far as value, and secondly to
12 the royalty owners as far as ultimate recovery, should
13 ROPCO operate, versus Amoco operating.

14 I'm sure everybody realizes the number of
15 variables is tremendous, so I've tried to keep everything
16 as constant as possible and --

17 Q. Have you reduced that information to an exhibit
18 form?

19 A. Yes, I've reduced what information I have onto
20 Exhibit Number 17.

21 Q. All right, let's look at that and have you
22 describe for us how you've organized the display, and then
23 we'll talk about the parameters, and then the assumptions
24 and finally the conclusions.

25 A. Okay. Basically, the display is set up to show a

1 comparison on the Pictured Cliffs well versus the
2 commingled Pictured Cliffs and Fruitland, so that
3 essentially any variances would be added.

4 I've listed at the top the assumptions as far as
5 reservoir parameters, economic parameters. And as you can
6 see, I've kept them constant between ROPCO and Amoco. In
7 essence, I've assumed that Amoco is on budget, ROPCO is on
8 budget, that the well's productivity and decline rates are
9 identical, in essence, for giving any fact as far as the
10 different wellbore configurations, and held everything
11 constant on that side --

12 Q. Do you have a --

13 A. -- the only differentiation being the
14 differentiation between capital investment and operating
15 costs over the life of the wells.

16 Q. So the Examiner understands how you've gone about
17 this, describe for us how you've come up with your
18 recoverable gas reserve number that you've put into the
19 calculation.

20 A. The recoverable reserves are calculated based off
21 of initial gas rates and decline rates and economic limit.

22 The last page, Appendix Number 1, shows our
23 assumption on operating costs, and they have a significant
24 impact, and I want to be straightforward on what those
25 assumptions are.

1 Basically, the overhead -- standard overhead rate
2 varies by only \$50 per month. Generally there's a pumper
3 charge.

4 The charge for compression, depending on the
5 method each operator chooses to incorporate those expenses,
6 varies, and I've got the figures used.

7 And then we've also added in the additional
8 overhead charges that Amoco normally would associate with
9 their wells. And I used \$300, and Mr. Hawkins said that
10 may be conservative. I don't know. But for the purposes
11 of this exhibit, we felt \$300 was a reasonable estimate.

12 Q. All right. How did you handle the potential
13 variable of the compression cost component?

14 A. What I assumed was several cases. I was not sure
15 how Amoco would propose their compression, whether they
16 were going to compress the two wells through one compressor
17 or whether they were going to buy them or lease them or
18 rent them.

19 So just to be safe I ran several cases and --

20 Q. Let's show the Examiner one. Let's pick an
21 example and show him the method, and then he can satisfy
22 himself if he wants to apply any of these other case
23 examples.

24 A. Okay, starting on the first page with A, this
25 would be the stand-alone Pictured Cliff wells.

1 The Case 1 would be where ROPCO and Amoco were to
2 rent a compressor. And what -- Each case has certain
3 criteria and certain values shown for the ROPCO case, and
4 then the Amoco case with the same fixed variables, just
5 changing those -- the fixed constants being the same,
6 changing the variables, and the variance being the
7 difference.

8 Under the rental it shows that over the life of
9 the well, we would extend the life by about four years and
10 recover --

11 Q. Where do you see that? The second entry down?

12 A. Correct, the life of the project at the economic
13 limit. Whereas ROPCO's well was 19 years, one month,
14 Amoco's was 15 years, one month. Therefore, ROPCO
15 operating would extend it approximately four years.

16 Q. In addition to the extended four-year life of
17 production by Richardson, what is your estimate of the
18 additional gas recovered if they operate?

19 A. Under the same scenario, it would be roughly
20 149,000 MCF.

21 Q. All right, let's turn to see how you handle the
22 Pictured Cliffs and Fruitland combined, that type of
23 completion.

24 A. Okay. I might mention that Case 2 is assuming
25 that the compressors are purchased and financed.

1 And Case 3 assumes that we buy used compressors.

2 And again, in those two cases, the variance
3 between the two is still to the favor of ROPCO, roughly two
4 years, eight months, and 42,000 MCF.

5 Q. Amoco's AFE used \$30,000 for the cost of a
6 compressor?

7 A. Yes, and again I'm not sure where their number
8 has come from, assuming that's a purchase price.

9 Generally, these wells produce a combined initial
10 rate of anywhere from 600 to 800 MCF per day, and the
11 pressure in those lines out there, it's high-pressure sales
12 lines.

13 Generally, it's the type of compressor you would
14 need for that. And we've gotten bids for that, would run
15 around \$85,000 new.

16 Generally, we attempt to get used equipment, but
17 \$85,000 would be a new price.

18 Q. All right. Let's see how you've analyzed the
19 comparison when we deal with a Fruitland Coal Gas-PC
20 combination.

21 A. Again, I've used the same cases, the same
22 assumptions, but this analysis labeled B is for the
23 commingled well, and it assumes that it qualifies for
24 downhole commingling, and that's the completion method.

25 Basically, the variance here is again to the

1 favor of ROPCO, roughly 146,000 MCF under, you know, the
2 Case 1 assumption, and 41,000 MCF under Cases 2 and Cases
3 3, again extending the life nearly three years for the
4 well.

5 So for the total two-well project that we're
6 looking at, the incremental reserves is -- well, nearly
7 300,000 MCF under one scenario, and if you take the
8 conservative view it's roughly 82,000, 83,000 MCF.

9 Q. Do you have an opinion as to whether it's
10 appropriate for this case to be decided based upon a
11 difference in AFE costs as proposed by the two different
12 operators?

13 A. I think the basis for any well being drilled is
14 to drill it as efficiently as possible and recover the most
15 reserves as economically possible.

16 If the numbers proposed by Amoco are their true
17 belief on the cost of their wells and we've established
18 some of the operating costs, it would be to their advantage
19 as well as the other working interest owners and royalty
20 owners to elect Richardson as operator.

21 Q. Let's turn to Exhibit 18. Identify and describe
22 for me what you're showing here.

23 A. The rest of my exhibits pertain to the request
24 for downhole commingling of the Pictured Cliff and
25 Fruitland Coal.

1 Again, it's critical to get that prior approval,
2 especially in this case. Otherwise, the Fruitland Coal
3 reserves would perchance be left behind pipe.

4 ➤ And secondly, certainly in Amoco's case, they
5 would have to have that approval before they could drill.

6 Exhibit Number 18 is the nine-section plat which
7 shows the Fruitland Coal spacing unit in the west half of
8 12 and shows the offset wells and their owners. This is
9 what was used for notification purposes for the downhole
10 commingling application.

11 Q. All right. Let's turn to Exhibit 19 now, Ms.
12 Delventhal, and have you describe this exhibit.

13 A. Exhibit 19 shows some economic criteria for why a
14 commingled completion is preferable, as opposed to drilling
15 two stand-alone wells or completing a separate Fruitland
16 Coal formation.

17 The first page shows the assumptions as far as
18 the economic criteria and gas rates, et cetera. For this
19 case, we assumed that we purchased a compressor at our bid
20 price and financed it.

21 And the second page shows, as Part A, the
22 Pictured Cliffs well stand-alone economics. As you can
23 see, the profit-to-investment ratio is nearly 12. It's a
24 good project. The well life is 26-some years, and we
25 should recover just under 2 BCF.

1 The Fruitland Coal, if we were to drill a stand-
2 alone well, is barely economic. The profit-to-investment
3 ratio is less than one, and it has roughly a 10-year well
4 life. It is unlikely, if an operator were choosing
5 projects, that this well would be drilled separately during
6 this environment.

7 Part C is the economics of the commingled well.
8 Under the commingled scenario, the profit-to-investment
9 ratio is nearly 14, recoverable reserves are now roughly
10 2.8 BCF. Therefore, you've recovered roughly .8 BCF of
11 Fruitland Coal reserves, whereas if you drilled it stand-
12 alone, you were recovering under 600,000.

13 So by commingling the two together, your
14 incremental recovery versus the separate completions is
15 nearly 300,000 MCF.

16 Q. Would it have been a mistake to drill the west
17 half of the section with two stand-alone PC wells, without
18 trying to get the coal gas production?

19 A. Again, if that had occurred, if both had been
20 developed and the Fruitland Coal formation owners wished to
21 develop their reserves, they would be looking at stand-
22 alone Fruitland Coal economics.

23 I would doubt that either Amoco or Richardson or
24 any other operator in the San Juan Basin right now would
25 drill the well under that case. In essence, those reserves

1 would not be developed at this time.

2 Q. In your opinion, for the coal gas reserves in the
3 west half of the section, then, it's most prudent to
4 develop those with one of these wellbores being a
5 commingled wellbore?

6 A. That's correct. And should -- for either
7 bottomhole pressure reasons or if it for some reason did
8 not qualify it to be commingled, then a dual completion
9 would be your next alternate. But you would definitely
10 develop those reserves at the same time.

11 Q. All right. Let's turn to Exhibit 20 and have you
12 give us a short summary on the wellbore diagram.

13 A. Like I said, there's no new science at all to the
14 proposal of ROPCO and how we drill these wells out here,
15 just a standard gas well: Set 7-inch surface casing, and
16 then we set 4 1/2 or 5 1/2 casing down to about 1630 feet.

17 The formations range from about 1420 to 1485 foot
18 in depth.

19 We use a standard completion method. We
20 circulate cement to surface if possible, perforate and test
21 each zone to gather the data we need for the downhole
22 commingling, run open-ended tubing and place it on line.

23 Q. Let's turn to Exhibit 20.

24 Is there any pressure differential of concern
25 estimated between the Fruitland Coal and the PC that would

1 preclude the downhole commingling of production in these
2 two reservoirs?

3 A. No, actually the bottomhole pressure data that
4 we've gathered in the area shows that the area is fairly
5 depleted, that the reservoir pressure is quite similar
6 between both the Fruitland Coal and the Pictured Cliffs and
7 ranges between about 210 and 240 p.s.i.

8 Q. Have you also analyzed the gas analysis to
9 determine whether the gas components and constituents in
10 this specific area are compatible if the formations are
11 commingled?

12 A. Yes, I have, and I've included as Exhibits Number
13 22 and Number 23 actual chromatograph analysis of a
14 Pictured Cliffs well and a Fruitland Coal well --

15 Q. With what conclusion?

16 A. -- both within a mile. And the gas is
17 compatible.

18 Q. All right, let's turn to the allocation formula.
19 If you'll look at Exhibit 24, which is the last of your
20 exhibits, give us a summary of your method and your
21 conclusions.

22 A. I've included this so that all the operators
23 would know the general procedure that ROPCO would propose.
24 Again, it's a fairly standard allocation formula, applied
25 to Fruitland Coal-Pictured Cliffs commingled wells in the

1 area.

2 Because the Pictured Cliffs is an established
3 pool and a good -- ultimate recovery numbers can be
4 calculated in the area, the allocation formula is based on
5 a difference method, whereas you calculate the PC reserves
6 and additional reserves are allocated to the Fruitland
7 Coal.

8 I've included the standard calculation. The
9 numbers will change based on actual reservoir pressures and
10 actual test rates, but the allocation method is at least
11 outlined.

12 Q. Is this the method that you utilized when you
13 made your presentation to the Division for the commingled
14 well that's in the east half of the spacing unit --

15 A. Yes, sir.

16 Q. -- or east half of the section?

17 MR. KELLAHIN: All right, that concludes my
18 examination, Mr. Examiner, of Ms. Delventhal.

19 We move the introduction of her Exhibits 15
20 through 24.

21 MR. CARR: No objection.

22 EXAMINER STOGNER: 15 through 24 Exhibits of
23 Richardson will be admitted into evidence at this time.

24 Thank you, Mr. Kellahin.

25 Mr. Carr, your witness.

CROSS-EXAMINATION

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BY MR. CARR:

Q. Ms. Delventhal, you previously worked for Amoco?

A. Yes, I did.

Q. And you are familiar with their operations in the San Juan Basin because you worked for them and also because you are a consultant active in the Basin; is that not fair to say?

A. Yes, sir.

Q. You do know that Amoco has drilled a number of Pictured Cliffs wells throughout the San Juan Basin?

A. A number of standard PC wells, yes.

Q. And they operate and produce a number of Pictured Cliffs wells in the Basin?

A. Uh-huh.

Q. They also have drilled and completed wells within the City of Farmington, haven't they?

A. Yes.

Q. Now, I gather from your testimony that you differ with the way they're proposing this well; is that fair to say?

A. Yes.

Q. Have you ever actually drilled a slimhole well with coiled tubing?

A. No.

1 Q. You can't say that it won't work, can you?

2 A. No, I didn't, and I didn't use any
3 differentiation in risk or cost in my analysis either.

4 MR. CARR: That's all I have, thank you.

5 EXAMINER STOGNER: Any redirect, Mr. Kellahin?

6 MR. KELLAHIN: No further questions.

7 EXAMINATION

8 BY EXAMINER STOGNER:

9 Q. On Exhibit Number 24 -- that's the allocation
10 formula -- this is essentially the basic things that have
11 been concluded in the -- I guess a lot of Meridian; is that
12 where you got this?

13 A. It's the similar -- yes, similar basis.

14 Q. Does Richardson have any commingled Pictured
15 Cliffs-Fruitland Coal gas wells in that southern part of
16 this area at this point, do you know?

17 A. We have one in the southeast -- or, excuse me, in
18 the northeast of Section 12, within a half mile.

19 Q. Okay, and that one is downhole commingled?

20 A. Yes, sir.

21 Q. Similar allocation formula?

22 A. Correct.

23 Q. Was that a new drill or a recompletion?

24 A. It was a new drill.

25 EXAMINER STOGNER: Okay. Any other questions of

1 the witness?

2 Ms. Delventhal may be excused.

3 Mr. Kellahin?

4 MR. KELLAHIN: Mr. Examiner, the reference for
5 that other offsetting commingling application, it's Case
6 11,106. It's an October 13th, 1994, case.

7 I apologize for not having the order number, but
8 that's the case number.

9 EXAMINER STOGNER: That was 11,106?

10 MR. KELLAHIN: Yes, sir.

11 EXAMINER STOGNER: Okay.

12 MR. KELLAHIN: Mr. Examiner, I have Exhibits 25
13 and 26, which represent my certificate of notification for
14 the compulsory pooling portion plus the downhole
15 commingling portion of the case.

16 EXAMINER STOGNER: Thank you.

17 Mr. Kellahin?

18 MR. KELLAHIN: Mr. Examiner, Mr. Rod Markham, who
19 is one of the working interest owners in each of these
20 spacing units, has requested an opportunity to testify
21 before you, and with your permission I will call him and
22 sponsor him as a witness.

23 He's listed in all these tabulations as Roderick
24 Allen Markham, I believe.

25 EXAMINER STOGNER: Okay, one and the same. Okay,

1 proceed.

2 RODERICK A. MARKHAM,

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. KELLAHIN:

7 Q. Mr. Markham, would you please state your name and
8 occupation?

9 A. Rod Markham. I'm an independent oil and gas
10 landman, whatever. Jack of all --

11 Q. Do you make -- I'm sorry, I didn't hear you.

12 A. Jack of all trades. I'm not a professional
13 landman.

14 Q. Well, maybe by experience, Mr. Markham. We're
15 going to find out.

16 You'll have to speak up, it's going to be heard
17 to hear you.

18 Are you a working interest owner in the spacing
19 units that are being proposed to be operated either by
20 Amoco or Richardson?

21 A. That's correct.

22 Q. What type of experience do you bring with you in
23 order to make decisions about what you wanted to do in
24 terms of your interest?

25 A. Well, the -- Of course, the initial look is the

1 AFEs, and then past experience with the operator.

2 Q. Is this a type of decision that's new for you
3 with this case?

4 A. No, sir.

5 Q. Do you make this kind of decision for yourself on
6 a regular basis?

7 A. Yes, sir.

8 Q. And have you had to make this type of decision in
9 the San Juan Basin concerning Pictured Cliffs wells?

10 A. Yes, sir.

11 Q. Have you been involved in a similar position with
12 Amoco as an operator in other wells?

13 A. Not my interest, but my father's interest has
14 been involved with Amoco in numerous wells, including the
15 Dakota well on the same unit.

16 Q. And is that an interest and an involvement for
17 which you have personal knowledge?

18 A. That's right, that's correct.

19 Q. What have you decided to do about committing your
20 interest to either operator?

21 A. If Amoco operates, I don't know what we will do.
22 If Richardson operates, I feel sure that we'll
23 stay and participate for our interest.

24 Q. What information did you obtain in order to help
25 you make a decision on what to do?

1 A. Well, the AFEs, for one thing, that was -- Of
2 course, that's the first look, is the AFEs. And we have
3 drilled quite a few Pictured Cliffs wells and Fruitland
4 Coal wells in the immediate vicinity, with BHP and Hallwood
5 Petroleum, and we have information also on Richardson wells
6 and Bob Bayless.

7 So we've been involved in the Pictured Cliffs and
8 Fruitland Coal wells.

9 Q. Based upon that experience, what did you conclude
10 about the AFE as proposed by Amoco?

11 A. It was way too high.

12 Q. What did you conclude about the AFE as proposed
13 by Richardson?

14 A. That was -- It was right in line with our
15 experience with BHP.

16 And we -- We're involved in the Gallegos Canyon
17 unit, and BHP is the operator, and we have access to -- as
18 part of the unit -- information, all of the wells that have
19 been drilled, 60-some-odd wells that have been drilled on
20 their well [sic], 30 recent wells.

21 And we have the total well costs for all these
22 wells, and the average is \$142,000. And these have been
23 drilled since 1990. And we have drilled wells within the
24 last year with them.

25 Q. Your conclusion with regards to that component of

1 your decision was what, sir?

2 A. That Amoco was too high, that Richardson was
3 basically right on the money, for what we would expect to
4 complete these wells for, drill and complete.

5 Q. When you received the original Amoco proposals
6 for the two PC wells in the west half of 12, what was your
7 understanding of how those wells were to be drilled and
8 completed?

9 A. From Amoco?

10 Q. Yes, sir.

11 A. Well, there wasn't enough information on the AFE
12 to know. It's very gross information that you have here,
13 and you can't deduce anything -- or I couldn't -- in
14 comparison to, for instance, BHP and Bob Bayless and Tom
15 Dugan and most other operators. It's just too big a
16 numbers to pull things out of.

17 Q. What did you do in order to help overcome that
18 difficulty?

19 A. I called Greg Grotke.

20 Q. Grotke, I think, is how you say his name.

21 A. Grotke. And frankly, my first -- the first thing
22 I said to him is, Would you consider letting someone else
23 operate? We didn't want Amoco operating the well. So I
24 asked him if he would.

25 And he said -- He didn't say too much, he said

1 it's a pet project -- or -- It's a pet project of his, and
2 they were trying to drill a bunch of wells at one time and
3 save a whole lot of money.

4 Q. Did you ask him to describe for you the kind of
5 well he proposed to drill under this plan?

6 A. Yes, and he started talking about the slimhole
7 completion, the 2-7/8-inch production string and coiled
8 tubing.

9 And I asked him also about the water, what do you
10 do with the water production?

11 Oh, about the coal, I asked him about the coal.

12 And he said, Well, that's not -- that coal is
13 not -- It's not relevant to this prospect.

14 And I said, Well, you know, we've been drilling
15 wells out there, and they're commingling. Other wells,
16 they're -- It's just happening all over the place out
17 there.

18 And he said, Well, actually I haven't looked at
19 the logs yet. And he said, My experience has been off
20 northeast, I believe, in some other area.

21 Q. Did you ask him whether or not water as a
22 component of production was an issue for these wells?

23 A. Yeah, water cost is a big issue, a big deal out
24 here. And I asked him, What are you going to do with the
25 water?

1 And he said, Well, these wells don't make hardly
2 any water.

3 And they do. I mean, just look at the records,
4 that's -- They do.

5 Q. Did you have any discussion with Mr. Grotke about
6 his information level with regards to examinations of logs
7 in this area?

8 A. He said he hadn't -- I said, I think it's five,
9 ten feet, between the two -- between the base of the
10 Fruitland Coal and the PC.

11 And he said, Well, actually I haven't looked at
12 the logs yet.

13 That's what he told me.

14 Q. Approximately when did that conversation take
15 place?

16 A. 2-17-95. And he called me back on 2-18-95.

17 Q. So this is after the well proposal is submitted
18 to you?

19 A. Yes, sir.

20 Q. Did you have any other conversations with Mr.
21 Grotke, other than the two that you have related?

22 A. That scared me. I just -- I -- I wasn't at all
23 comfortable that they knew what they were doing. It was
24 a -- I felt like it was an engineering prospect, an
25 engineering project, and he was talking about completing

1 three to five wells in a day and all this stuff.

2 And I kept looking -- The bottom line on the AFE
3 was greater than the other wells, and if they were doing
4 this to save money they were taking the risk with 2-7/8-
5 inch production, this is crazy. I mean, it's -- I just
6 didn't want to have anything to do with the deal at that
7 point.

8 Q. What have you decided to do with your interest?

9 A. It depends. It depends on -- I called Ms.
10 Jenkins and asked if they would make us a proposal, because
11 all we had was drill or -- you know, drill or be penalized.
12 And I asked if they would give us a proposal, an alternate
13 proposal to farm out or buy out.

14 And I also asked her if they would market our gas
15 and also if they would make distribution on our, you know,
16 burdens.

17 And she never called me back, never came back to
18 me.

19 Q. In terms of your options, now, with regards to an
20 election to participate, would you elect to participate if
21 Amoco is awarded the operatorship of either or both of
22 these cases?

23 A. I don't know, I don't know. I just don't know.

24 Q. What is your --

25 A. It's a good prospect, it's --

1 Q. What is your dilemma, Mr. Markham?

2 A. We've been involved with Amoco -- We're involved
3 with Amoco right here in Dakota wells and in some Fruitland
4 sand in the area.

5 The communication is not good with Amoco.
6 They're nice -- Everybody's nice people, but you can't get
7 an answer to anything. You get these oddball charges
8 showing up on your bills, some of them just gigantic, and
9 you try to find somebody to explain to you what they are,
10 and it may take two months, literally, to get a response.
11 And it can -- You can have seven or eight things going on
12 at one time, and none of them resolved.

13 They start charging you plugging costs before
14 you've ever signed an AFE to plug a well. They charge you
15 overhead when a well is not being produced. It just hasn't
16 been good for us.

17 Q. If Richardson is awarded the right to operate
18 these wells, either both or one of them, what decision
19 would you make if Richardson operated?

20 A. I think we would -- I think we would participate.

21 MR. KELLAHIN: Thank you, Mr. Examiner.

22 EXAMINER STOGNER: Mr. Kellahin.

23 Mr. Carr?

24 MR. CARR: We don't have any questions of this
25 witness.

1 EXAMINER STOGNER: I don't have any questions of
2 Mr. Markham myself, I believe.

3 At this time -- You may be excused.

4 At this time --

5 MR. KELLAHIN: That concludes our presentation.

6 EXAMINER STOGNER: -- if there are any recall of
7 any witnesses at this time?

8 MR. CARR: No, sir.

9 EXAMINER STOGNER: So are we ready for closing
10 statements?

11 MR. KELLAHIN: There are a few points I'd like to
12 raise with you, Mr. Examiner, and I will attempt to be as
13 concise as I can.

14 I would appreciate the opportunity to prepare a
15 draft order for you so that those matters that I do not
16 discuss with you now, I can make reference to in a proposed
17 order, and then you can decide if they are of importance to
18 you.

19 Mr. Carr and I have done hundreds of cases before
20 you, Mr. Examiner, and it's now pushing six o'clock, and a
21 lot of times these pooling cases fall into a common pattern
22 where you can make some decisions just by following a set
23 of pegs to hit with your hammer.

24 And sometimes it's appropriate to simply say all
25 things are equal and the party with the greatest interest

1 ought to operate for no other reason than they perhaps have
2 the greatest amount of dollars at risk. We've talked about
3 this on numerous occasions.

4 And every so often, we have a case like this.
5 And these cases are hard because they represent an effort
6 by a majority working interest owner to do as little as
7 possible in order to force-pool parties that don't want to
8 be in their proposal. And that's what occurred here, Mr.
9 Examiner.

10 Amoco is sleepwalking through the process. They
11 have a majority interest, they send us a routine letter,
12 which is not a request to participate, it's an ultimatum.
13 They tell us that this is going to be under their terms,
14 and if we don't, they're going to force-pool us.

15 Now, letters are hardly exchanged, and Mr.
16 Hawkins is busy filing a pooling Application. And what he
17 seeks to do is something that's not appropriate in this
18 area. He's ahead of his project. He forgets to ask to
19 pool the coal. It's included in his Application, but his
20 land person never proposed it.

21 And you and Mr. Carr and I have argued a number
22 of cases where it mattered to you that a proposal by an
23 Applicant was different than the relief requested.

24 In this case, they -- Amoco had proposed two
25 stand-alone PC wells, and yet they filed a pooling

1 application for a downhole commingled PC-Fruitland Coal
2 well.

3 Those little differences matter.

4 It matters that Amoco didn't think to file for
5 downhole commingling. It indicates a disregard for being
6 thorough and complete.

7 Look at the AFE process that they went through.
8 It again was sleepwalking through the process. Compare
9 that AFE to the AFEs, the hundreds that you've seen, and
10 how careful most of those are.

11 We asked a number of questions of importance
12 about how that was put together. And the question you
13 should have is the same question I have, is, Where is Mr.
14 Grotke? Where is he? This is his project, his deal, his
15 representation that he needed five wells to be economic.

16 And who comes to testify? It is not Mr. Grotke.

17 What we do here, though, is, Amoco sends Mr.
18 Hawkins down here to describe a science project. He wants
19 to use slimhole technology with some kind of coiled tubing,
20 with my investors' money, to help them with their science
21 project. They haven't done one of these in the San Juan
22 Basin, and they want us to help pay for their science
23 project.

24 I suspect Amoco's got a hundred-percent acreage
25 position somewhere in the PC that they can go through this

1 project on their dollars and not ours.

2 The little guy matters.

3 And we have shown you a difference in the AFE
4 costs in comparison to ultimate recoveries.

5 Dana has presented to you a thorough analysis,
6 and I hope you will look at it again. She's shown you a
7 differential by which the producing life of these wells can
8 be extended at least four more years, with cost-efficient
9 operation by my client.

10 It's easy for you to simply go down the checklist
11 and say Amoco's got the bigger interest and let them
12 operate. We think that is not the appropriate answer in
13 this case. There are other ways for Amoco to go about
14 their project.

15 I believe it's of significance to allow Mr.
16 Richardson to operate this when he already has developed
17 the other half of this section and where you have to go six
18 miles away to find a PC well that Amoco has proposed.

19 There in fact are a number of things that are not
20 of significance.

21 There is no significant difference in overhead
22 rates.

23 There is no dispute about where to put the wells.
24 Amoco has adopted our plan to commingle one of them. They
25 realized very quickly that that was a good idea and adopted

1 what we wanted to do, and we ought to get credit for
2 proposing that.

3 What we ought not to do is be penalized by being
4 pooled by Amoco. Small things matter.

5 The last point: What to do about the risk factor
6 penalty?

7 I think Mr. Richardson's idea was just fine. Why
8 not cost plus 150 percent? That's a level field for both
9 interest owners in both pools. Let's use that.

10 Why make it complicated by making it 200 percent
11 for one formation and 156 for the other? It doesn't make
12 any sense.

13 Award us credit and an opportunity to operate
14 because we have done a thorough job, we brought you the
15 downhole commingling presentation and have made that a
16 complete and thorough presentation.

17 Amoco, despite its effort to economically provide
18 a five-well package, has provided to you a well proposal
19 that's far in excess of what Richardson can do with a
20 single well.

21 We may be the little guy, but maybe the little
22 guy needs a turn.

23 Thank you.

24 EXAMINER STOGNER: Mr. Kellahin.

25 Mr. Carr?

1 MR. CARR: May it please the Examiner, I would
2 agree with Mr. Kellahin that over the years we've been
3 before you many times with opposing compulsory pooling
4 applications.

5 What you can always count on when we come before
6 you is, the person who doesn't have the evidence
7 immediately starts trying to characterize the case as
8 unique and something that you can't deal with by just
9 hitting the pegs with a hammer and determining who should
10 actually prevail.

11 You know better than any of us, Mr. Stogner, that
12 now we're looking at a number of proposed compulsory
13 pooling applications. They're coming into the Oil
14 Commission daily.

15 And to deal with this, by a memorandum dated
16 April the 5th, 1995, this month, the Division has defined
17 what is considered relevant and pertinent evidence, and
18 that which is considered irrelevant and unnecessary
19 evidence. These are the pegs, these are the pegs that we
20 can hit. We can show you why, with relevant and pertinent
21 evidence, Amoco should prevail.

22 The question here, Mr. Stogner, is, Who should
23 operate this well? Both parties want to do that. And the
24 place you start, if we follow this Division's memorandum,
25 is, we take a look at the ownership.

1 In the northwest quarter, Amoco has 83.38 percent
2 of the working interest. In the southwest quarter, on a
3 stand-alone basis we would have 50 percent, but in a west-
4 half unit we 67 percent. So on that basis alone we can hit
5 the peg.

6 If we look at the west half, we see although Mr.
7 Richardson is operating in the east half of the section, we
8 have two Dakota wells in the west half. They have nothing
9 there, and they want to come and drill two additional wells
10 on well pads that we have previously prepared.

11 The other thing -- The next peg that they in your
12 memo suggest you should look at is, Who actually proposed
13 the well?

14 Well, we can see that there were negotiations
15 about exchanging property interests several years ago. But
16 because of litigation and instructions from their counsel,
17 they went silent until we actually proposed the well in
18 February of this year.

19 And that is what started the process which has
20 brought us here today. We submit to you on that front we
21 also hit the peg.

22 I agree with Mr. Kellahin that overhead and
23 administrative costs are really not an issue, that the
24 actual well locations are not really an issue. And I
25 submit that when you take a look at the evidence, you're

1 going to find that the differences in cost are really not
2 an issue.

3 And what I'm suggesting there is, if you look at
4 the exhibits that were presented by Mr. Hawkins and you
5 take out compression, if you normalize stimulation costs as
6 we have suggested will be done and told you will be done,
7 and if you adjust the contingencies, you see the
8 differences are not, in fact, significant.

9 We submit to you that when you apply the
10 standards that this Division has announced, if you apply
11 relevant, pertinent evidence to the issues before you, you
12 come out on Amoco's side.

13 On the other hand, you can look at what
14 Richardson did, and we can look at what is considered
15 irrelevant or unnecessary evidence. And they talk about
16 the operator's ability to drill a well or ability to
17 produce and operate a well, previous disagreements with us.
18 But those you have already defined as irrelevant.

19 We submit when you take the evidence presented,
20 when you apply it to the standards announced by this
21 Division, you will grant the Application of Amoco and that
22 we will go forward and develop this acreage in a prudent
23 and responsible fashion.

24 EXAMINER STOGNER: Thank you, Mr. Carr.

25 What's the date of the memorandum, Mr. Carr?

1 MR. CARR: April the 5th, 1995.

2 EXAMINER STOGNER: Is that signed by Mr. Catanach
3 or Mr. LeMay?

4 MR. CARR: And both. Yes, and yes.

5 EXAMINER STOGNER: Is my name on there anywhere?

6 MR. CARR: No, it was just -- It was just by
7 other people in the Division, but an issue by the Director.

8 EXAMINER STOGNER: Okay, I'll make administrative
9 notice of that particular memorandum --

10 MR. CARR: Thank you, Mr. Examiner.

11 EXAMINER STOGNER: -- in this matter.

12 Mr. Kellahin, I believe you are aware of the
13 memorandum that he was referring to?

14 MR. KELLAHIN: Yes, sir.

15 EXAMINER STOGNER: I'm going to request that both
16 parties give me a rough draft, probably -- What? Two rough
17 drafts?

18 MR. KELLAHIN: I'm assuming Mr. Carr will not
19 agree with my draft.

20 EXAMINER STOGNER: Well, what I meant is, two
21 rough drafts for each particular acreage --

22 MR. CARR: Correct.

23 MR. KELLAHIN: Yes, sir.

24 EXAMINER STOGNER: -- as opposed to one for all
25 the acreage --

1 MR. CARR: Right.

2 EXAMINER STOGNER: -- if that makes sense.

3 MR. CARR: It does.

4 EXAMINER STOGNER: I'll let you guys set the time
5 frame.

6 MR. KELLAHIN: Okay.

7 EXAMINER STOGNER: You can get back with me
8 later.

9 MR. KELLAHIN: May we discuss it and let you know
10 later?

11 EXAMINER STOGNER: That will be fine.

12 MR. KELLAHIN: All right, sir.

13 And with that, if there's nothing further in any
14 of these cases, at this time I'll take them under
15 advisement.

16 (Thereupon, these proceedings were concluded at
17 5:53 p.m.)

18 * * *

19

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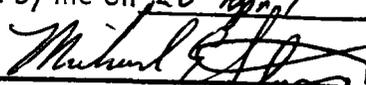
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I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case Nos. 11243, 11244, 11246,
heard by me on 20 April 1995. 11247

Examiner
Oil Conservation Division

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 May 7th, 1995.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998



Application for Compulsory Pooling

Burnham Gas Com 'A' #1 Well, NW/4 Section 12, T29N-R13W

Burnham Gas Com 'B' #1 Well, SW/4 Section 12, T29N-R13W

Basin Fruitland Coal Pool

Undesignated - West Kutz Pictured Cliffs Pool

San Juan County, New Mexico



March 9, 1995

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
2040 S. Pacheco Street
P.O. Box 6429
Santa Fe, NM 87505

Southern

Rockies

Business

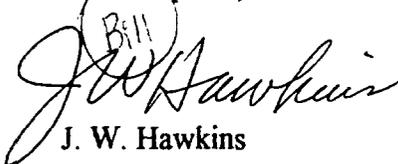
Unit

Application For Compulsory Pooling
W/2 Section 12-T29N-R13W
Basin Fruitland Coal Pool
NW/4 Section 12-T29N-R13W and
SW/4 Section 12-T29N-R13W
Undesignated-West Kutz Pictured Cliffs Pool
San Juan County, New Mexico

Amoco Production Company hereby makes application for compulsory pooling all mineral interests from the surface to the base of the Pictured Cliffs formation underlying the W/2 of Section 12, T29N-R13W in the following manner: the W/2 thereby forming a standard 320 acre gas spacing and proration unit for the Basin Fruitland Coal Pool to be dedicated to the Burnham Gas Com /B/ #1 Well to be drilled at a standard location in the SW/4; the SW/4 thereby forming a standard 160 acre gas spacing and proration unit for the Undesignated-West Kutz Pictured Cliffs Pool also to be dedicated to the Burnham Gas Com /B/ #1 Well to be drilled at a standard location in the SW/4; and the NW/4 thereby forming a standard 160 acre gas spacing and proration unit for the Undesignated-West Kutz Pictured Cliffs Pool to be dedicated to the Burnham Gas Com /A/ #1 Well to be drilled at a standard location in the NW/4.

In support of this application, Amoco states that it is the owner of majority of the working interest in the Basin Fruitland Coal and Undesignated-West Kutz Pictured Cliffs Pools in the W/2 of Section 12, T29N-R13W and should be named operator of the above referenced wells. The hearing should also consider cost of drilling and completing said wells and allocation of such costs as well as actual operating costs and charges for supervision and a charge for risk involved in drilling said wells.

A copy of this application will be submitted to the owners of uncommitted leasehold interests by certified mail. Amoco respectfully requests that this application be set for hearing on the April 6, 1995 docket.


J. W. Hawkins

cc: Julie Jenkins

ADDRESSEE LIST
Burnham Gas Corp /A#1

- Rosalind Redfern
P. O. Box 2127
Midland, TX 79702-2127

- The Estate of John J. Redfern, Jr.
c/o John J. Redfern III, Independent Executor
P. O. Box 50896
Midland, TX 79710-0896

- Kerr-McGee Corporation
P. O. Box 25861
Oklahoma City, OK 73125-0861

- Roderick Allen Markham
1500 Broadway, Suite 1212
Lubbock, TX 79401-3192

- Manon Markham McMullen
2200 Berkeley
Wichita Falls, TX 76308

- Richardson Production Company
1700 Lincoln, Suite 1700
Denver, CO 80203

- Estate of John J. Christmann, deceased
c/o Christmann Mineral Company
1500 Broadway, Suite 800
Lubbock, TX 79401-3104

ADDRESSEE LIST
Burnham Gas Com /B/ #1

- Rosalind Redfern
P. O. Box 2127
Midland, TX 79702-2127

- The Estate of John J. Redfern, Jr.
c/o John J. Redfern III, Independent Executor
P. O. Box 50896
Midland, TX 79710-0896

- Kerr-McGee Corporation
P. O. Box 25861
Oklahoma City, OK 73125-0861

- Jack Markham
1500 Broadway, Suite 1212
Lubbock, TX 79401-3192

- Richardson Production Company
1700 Lincoln, Suite 1700
Denver, CO 80203

- Estate of John J. Christmann, deceased
c/o Christmann Mineral Company
1500 Broadway, Suite 800
Lubbock, TX 79401-3104

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Consult postmaster for fee.

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Rosalind Redfern
P.O. Box 2127
Midland, Tx 79702-2127

4a. Article Number
Z 385 302 167

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
MAR 17 1995

5. Signature (Addressee)
Rosalind Redfern

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

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2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

The Estate of John J. Redfern, Jr.
c/o J. J. Redfern III, Ind. Exec.
P.O. Box 50896
Midland, TX 79710-0896

4a. Article Number
Z 385 302 172

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
MAR 20 1995

5. Signature (Addressee)
John J. Redfern, Jr.

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

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I also wish to receive the following services (for an extra fee):

1. Addressee's Address
2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Kerr-McGee Corporation
P.O. Box 25861
Oklahoma City, OK 73125-0861

4a. Article Number
Z 385 302 170

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
MAR 11 1995

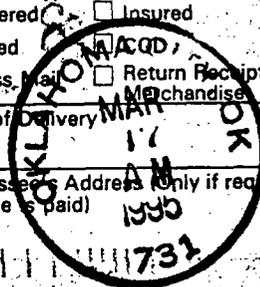
5. Signature (Addressee)
[Signature]

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, December 1991 U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

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- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Estate of John J. Christmann, deceased
 c/o Christmann Mineral Company*
 1500 Broadway, Suite 800
 Lubbock, TX 79401-3104

4a. Article Number
 Z 385 302 166

4b. Service Type

Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 3-17-95

5. Signature (Addressee)
Richard Jones

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
S. Matthe

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
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- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Richardson Production Company
 1700 Lincoln, Suite 1700
 Denver, CO 80203

4a. Article Number
 Z 385 302 161

4b. Service Type

Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 3/15/95

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
[Signature]

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

is your RETURN ADDRESS completed on the reverse side?

SENDER:

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- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Manon Markham McMullen
 2200 Berkeley
 Wichita Falls, TX 76308

4a. Article Number
 Z 385 302 164

4b. Service Type

Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 3-17-95

5. Signature (Addressee)
[Signature]

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
[Signature]

PS Form 3811, December 1991 *U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

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SENDER:

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- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Roderick A. Markham
1500 Broadway, Suite 1212
Lubbock TX 79401-3192

4a. Article Number

Z 385 302 168

4b. Service Type

- Registered Insured
- Certified COD
- Express Mail Return Receipt for Merchandise

7. Date of Delivery

3-17-95

5. Signature (Addressee)

Roderick A. Markham

6. Signature (Agent)

S. Markham

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
 - 2. Restricted Delivery
- Consult postmaster for fee.

3. Article Addressed to:

Kerr-McGee Corporation
 P.O. Box 25861
 Oklahoma City, OK 73125-0861

4a. Article Number
 Z 385 302 163

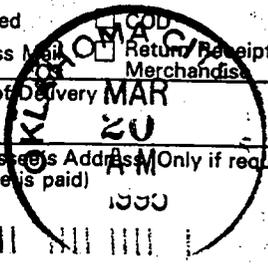
4b. Service Type
 Registered Insured
 Certified Return Receipt for Merchandise
 Express Mail

7. Date of Delivery
 MAR 20 1995

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)



Thank you for using Return Receipt Service.

is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
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- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
 - 2. Restricted Delivery
- Consult postmaster for fee.

3. Article Addressed to:

The Estate of John J. Redfern, Jr.
 c/o John J. Redfern III, Ind. Exec.
 P.O. Box: 50896
 Midland, TX 79710-0896

4a. Article Number
 Z 385 302 162

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 MAR 20 1995

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

Thank you for using Return Receipt Service.

is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
 - 2. Restricted Delivery
- Consult postmaster for fee.

3. Article Addressed to:

Rosalind Redfern
 P.O. Box 2127
 Midland, TX 79702-2127

4a. Article Number
 Z 385 302 169

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 MAR 17 1995

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Jack Markham
 1500 Broadway, Suite 1212
 Lubbock, TX 79401-3192

4a. Article Number
 Z 385 302 171

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 3-17-95

5. Signature (Addressee)
Jack Markham

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
S. Matthe

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Richardson Production Company
 1700 Lincoln, Suite 1700
 Denver, CO 80203

4a. Article Number
 Z 385 302 173

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 3/4/95

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
[Signature]

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
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- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- 1. Addressee's Address
- 2. Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
 Estate of John J. Christmann, deceased
 c/o Christmann Mineral Company
 1500 Broadway, Suite 800
 Lubbock, TX 79401-3104

4a. Article Number
 Z 385 302 165

4b. Service Type
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

7. Date of Delivery
 3-17-95

5. Signature (Addressee)
Becky Jones

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
S. Matthe

Thank you for using Return Receipt Service.

District I
 PO Box 1980, Hobbs, NM 88241-1980
 District II
 PO Drawer 811, Artesia, NM 88211-0719
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 PO Box 2088
 Santa Fe, NM 87504-2088

Form C-102

Revised February 21, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 4 Copies
 Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code		Pool Name	
Property Code	Property Name				Well Number
	NW 12-29-13 PC				
OGRID No.	Operator Name				Elevation
	AMOCO PRODUCTION COMPANY				5355

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	12	29 N	13 W		1450	NORTH	1520	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

" Dedicated Acres	" Joint or Infill	" Consolidation Code	" Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p>Signature _____</p> <p>Printed Name _____</p> <p>Title _____</p> <p>Date _____</p>
	<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>November 1, 1994</p> <p>Date of Survey _____</p> <p>Signature and Seal of Professional Surveyor: </p> <p>7016 Certificate Number</p>

Exhibit "A"

Attached to and made a part of that certain Operating Agreement dated January 15, 1995 between Amoco Production Company, as Operator, and Rosalind Redfern, et al, as non-Operators.

I. LANDS SUBJECT TO OPERATING AGREEMENT

Township 29 North, Range 13 West

Section 12: NW/4

II. RESTRICTIONS AS TO DEPTHS OR FORMATIONS

Limited in depth to the Pictured Cliffs formation.

III. ADDRESSES AND PERCENTAGE INTEREST OF PARTIES TO THIS AGREEMENT:

Amoco Production Company P. O. Box 800 Denver, CO 80201	83.38125%
Rosalind Redfern P. O. Box 2127 Midland, TX 79702	1.73438%
The Estate of John J. Redfern, Jr. c/o John J. Redfern III, Independent Executor P. O. Box 46 Midland, TX 79702	2.64896%
Flag-Redfern Oil Company P. O. Box 11050 Midland, TX 79702	1.15625%
Robert Allen Markham 1500 Broadway, #1212 Lubbock, TX 79401	2.07734%
Manon Markham McMullen 2200 Berkeley Wichita Falls, TX 76308	2.07734%
Richardson Production Company 1700 Lincoln, Suite 1700 Denver, CO 80203	2.76979%
Estate of John J. Christmann, deceased c/o Christmann Mineral Company 1500 Broadway, Suite 800 Lubbock, TX 79407	4.15469%
	100.00000%

*Signed
Amoco*

District I
 PO Box 1988, Hobbs, NM 88241-1988
 District II
 PO Drawer DD, Artesia, NM 88211-8719
 District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 District IV
 PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
 Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
 PO Box 2088
 Santa Fe, NM 87504-2088

Form C-102
 Revised February 21, 1994
 Instructions on back
 Submit to Appropriate District Office
 State Lease - 4 Copies
 Fee Lease - 3 Copies

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number		Pool Code		Pool Name	
Property Code		Property Name		Well Number	
		BURNHAM G. C. B		# 1	
OGRID No.		Operator Name		Elevation	
		AMOCO PRODUCTION COMPANY		5476	

10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	12	29 N	13 W		850	SOUTH	1190	WEST	SAN JUAN

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16	- Ft. COAL			17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief
12	- P.C.			18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

1190' 850'

FEEL \$70,000 Fee

NEW MEXICO REGISTERED PROFESSIONAL LAND SURVEYOR
 GARY D. VAAN
 7016

Exhibit "A"

Attached to and made a part of that certain Operating Agreement dated February 1, 1995 between Amoco Production Company, as Operator, and Rosalind Redfern, et al, as non-Operators.

I. LANDS SUBJECT TO OPERATING AGREEMENT

Township 29 North, Range 13 West

Section 12: W/2 as to Fruitland Coal
Section 12: SW/4 as to Pictured Cliffs

II. RESTRICTIONS AS TO DEPTHS OR FORMATIONS

Limited in depth to the Pictured Cliffs and Fruitland Coal formations.

III. ADDRESSES AND PERCENTAGE INTEREST OF PARTIES TO THIS AGREEMENT:

	<u>Pictured Cliffs SW/4</u>	<u>Fruitland Coal W/2</u>
Amoco Production Company P. O. Box 800 Denver, CO 80201	50.000%	66.69062%
Rosalind Redfern P. O. Box 2127 Midland, TX 79702	6.250%	3.29648%
The Estate of John J. Redfern, Jr. c/o John J. Redfern III, Independent Executor P. O. Box 50896 Midland, TX 79702	6.250%	5.60888%
Kerr-McGee Corp. P. O. Box 25861 Oklahoma City, OK 73125	4.167%	2.19678%
Jack Markham 1500 Broadway Lubbock, TX 79401	12.500%	6.25000%
Richardson Production Company 1700 Lincoln, Suite 1700 Denver, CO 80203	8.333%	5.55249%
Estate of John J. Christmann, deceased c/o Christmann Mineral Company 1500 Broadway, Suite 800 Lubbock, TX 79407	12.500%	8.32737%
Manon Markham McMullen 2200 Berkeley Wichita Falls, TX 76308	0.000%	1.03869%
Roderick Allen Markham 1500 Broadway, Suite 1212 Lubbock, TX 79401	0.000%	1.03869%
	100.00000%	100.00000%

**Burnham Gas Com /A/ #1
NW/4 of Section 12-T29N-R13W
San Juan County, New Mexico**

Timeline

February 14, 1995:

Amoco Production Company mailed via ~~Certified Mail - Return Receipt~~ Requested proposed AFE and Operating Agreement to all record working interest owners in the Pictured Cliffs formation in the NW/4 of Section 12-T29N-R13W, San Juan County, New Mexico.

February 16, 1995:

Date AFE and Operating Agreement received by Richardson Operating Company, per US Postal Service Form 3811, Domestic Return Receipt.

February 23, 1995:

Cathleen Colby, Land Manager of Richardson called Greg Grotke, engineer, of Amoco. Cathleen expressed Richardson's opinion that Amoco's costs were too high, and asked if Amoco would be willing to trade some of our offset acreage for their acreage in this location.

March 6, 1995:

Amoco received, via FAX, a letter from Richardson proposing to drill a Pictured Cliffs well in the NW/4 of Section 12-T29N-R13W, San Juan County, New Mexico, calling it the ROPCO Fee 12-4 PC Well. This proposal included an AFE, but no Operating Agreement.

Greg Grotke called Cathleen Colby of Richardson to say that the AFE was unexpected. Cathleen told Greg that Richardson would prefer to operate a well in this spacing unit.

March 7, 1995:

Julie Jenkins, Land Negotiator with Amoco called Cathleen Colby with Richardson to request a copy of the Operating Agreement that Richardson would propose to use to govern the operations of this well.

Julie Jenkins of Amoco sent to Cathleen Colby of Richardson a letter, via FAX, stating that Amoco has no interest in any type of sale or exchange of interests.

** Copy now in record*

March 9, 1995:

J. W. Hawkins, proration engineer with Amoco mailed a letter to Mr. William J. LeMay, Director of the NMOCD applying for compulsory pooling of the NW/4 of Section 12-T29N-R13W, San Juan County, New Mexico for the Undesignated-West Kutz Pictured Cliffs Pool. Copies of this letter were sent to all working interest owners in the proposed unit.

March 14, 1995:

Mr. W. Thomas Kellahin hand delivered a letter addressed to Mr. Michael E. Stogner of the NMOCD, applying on behalf of Richardson Operating Company for compulsory pooling, downhole commingling and unorthodox gas well location for the ROPCO Fee 12-4 well. We are unsure of the date we received a copy of this notice.

March 15, 1995:

Date a copy of Amoco's March 9, 1995 letter was received by Richardson Operating Company, per United States Postal Service Form 3811, Domestic Return Receipt.

March 24, 1995:

Amoco Production Company Received signed AFE and Operating Agreement from Manon Markham McMullen, a working interest owner in the well, approving Amoco's proposal.

February 14, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Re: Pictured Cliffs Well Proposal
Burnham Gas Com /A/ #1
NW/4 of Section 12-T29N-R13W
San Juan County, New Mexico

WORKING INTEREST OWNERS - ADDRESSEE LIST ATTACHED

Gentlemen:

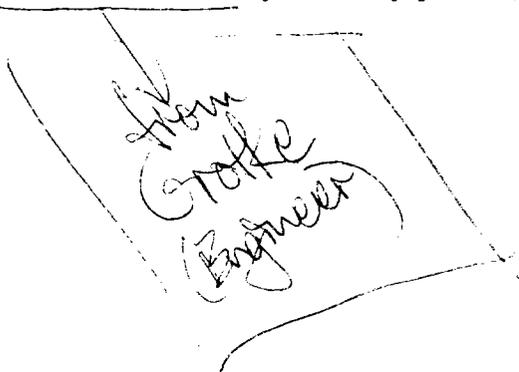
Amoco Production Company is proposing to drill a Pictured Cliffs well on the captioned acreage. Enclosed for your review is an AFE outlining the estimated cost of the project. Also enclosed is an Operating Agreement which we are proposing to use to govern the operations of this well. Exhibit "A" of the Operating Agreement sets forth what our records indicate your interest to be in the Pictured Cliffs formation.

Please indicate your approval to join in this project by signing both the AFE and Operating Agreement and returning both to my attention as soon as possible. Because we must drill this well as a "package" with 5 other PC wells in order for it to be economic, we will proceed to initiate force-pooling measures to ensure the timely consolidation of all interests. If you have any questions, please feel free to contact me at (303) 830-4844.

Yours very truly,

Julie Talbot Jenkins
Senior Land Negotiator

JAT/ms
encl.



Tom Grothe
Engineer

ADDRESSEE LIST
Burnham Gas Com /A/ #1

Rosalind Redfern
P. O. Box 2127
Midland, TX 79702

The Estate of John J. Redfern, Jr.
c/o John J. Redfern III, Independent Executor
P. O. Box 46
Midland, TX 79702

Flag-Redfern Oil Company
P. O. Box 11050
Midland, TX 79702

Robert Allen Markham
1500 Broadway, #1212
Lubbock, TX 79401

Manon Markham McMullen
2200 Berkeley
Wichita Falls, TX 76308

Richardson Production Company
1700 Lincoln, Suite 1700
Denver, CO 80203

Estate of John J. Christmann, deceased
c/o Christmann Mineral Company
1500 Broadway, Suite 800
Lubbock, TX 79407

**Burnham Gas Com /B/ #1
SW/4 of Section 12-T29N-R13W
San Juan County, New Mexico
Timeline**

February 14, 1995:

Amoco Production Company mailed via Certified Mail - Return Receipt Requested proposed AFE and Operating Agreement to all record working interest owners in the Pictured Cliffs formation in the SW/4 of Section 12-T29N-R13W, San Juan County, New Mexico.

February 16, 1995:

Date AFE and Operating Agreement received by Richardson Operating Company, per US Postal Service Form 3811, Domestic Return Receipt.

February 23, 1995:

Cathleen Colby, Land Manager of Richardson called Greg Grotke, engineer, of Amoco. Cathleen expressed Richardson's opinion that Amoco's costs were too high, and asked if Amoco would be willing to trade some of our offset acreage for their acreage in this location.

March 6, 1995:

Amoco received, via FAX, a letter from Richardson proposing to drill a Pictured Cliffs/Fruitland Coal well in the SW/4 of Section 12, calling it the ROPCO Fee 12-3 (A) PC, (B) FC Well. This proposal included an AFE, but no Operating Agreement.

Greg Grotke called Cathleen Colby of Richardson to say that the AFE was unexpected. Cathleen told Greg that Richardson would prefer to operate a well in this spacing unit.

March 7, 1995:

Julie Jenkins, Land Negotiator with Amoco called Cathleen Colby with Richardson to request a copy of the Operating Agreement that Richardson would propose to use to govern the operations of this well.

Julie Jenkins of Amoco sent to Cathleen Colby of Richardson a letter, via FAX, stating that Amoco has no interest in any type of sale or exchange of interests.

March 9, 1995:

J. W. Hawkins, proration engineer with Amoco mailed a letter to Mr. William J. LeMay of the NMOCD applying for compulsory pooling of the SW/4 of Section 12-T29N-R13W, San Juan County, New Mexico for the Undesignated-West Kutz Pictured Cliffs Pool and for the W/2 of Section 12-T29N-R13W, San Juan County, New Mexico for the Basin Fruitland Coal Pool. Copies of this letter were sent to all working interest owners in the proposed units.

March 13, 1995:

Amoco mailed via Certified Mail - Return Receipt Requested a proposed AFE and Operating Agreement to all record interest owners in the Fruitland Coal formation and the Pictured Cliffs formation. This letter amended the original proposal to drill a Fruitland Coal/Pictured Cliffs downhole commingled well, rather than just a Pictured Cliffs as outlined in our original proposal.

March 14, 1995:

Mr. W. Thomas Kellahin hand delivered a letter addressed to Mr. Michael E. Stogner of the NMOCD, applying on behalf of Richardson Operating Company for compulsory pooling, downhole commingling and unorthodox gas well location for the ROPCO Fee 12-3 (A) PC (B) FC well located in the SW/4 of Section 12-T29N-R13W, San Juan County, New Mexico. We are unsure of the date we received this notice from Mr. Kellahin.

March 15, 1995:

Date a copy of Amoco's March 9, 1995 letter was received by Richardson Operating Company, per United States Postal Service Form 3811, Domestic Return Receipt.

March 16, 1995:

Date new PC/FT commingle AFE and Operating Agreement sent under cover letter dated March 13, 1995 was received by Richardson Operating Company, per United States Postal Service Form 3811, Domestic Return Receipt.

February 14, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Re: Pictured Cliffs Well Proposal
Burnham Gas Com /B/ #1
SW/4 of Section 12-T29N-R13W
San Juan County, New Mexico

WORKING INTEREST OWNERS - ADDRESSEE LIST ATTACHED

Gentlemen:

Amoco Production Company is proposing to drill a Pictured Cliffs well on the captioned acreage. Enclosed for your review is an AFE outlining the estimated cost of the project. Also enclosed is an Operating Agreement which we are proposing to use to govern the operations of this well. Exhibit "A" of the Operating Agreement sets forth what our records indicate your interest to be in the Pictured Cliffs formation.

Please indicate your approval to join in this project by signing both the AFE and Operating Agreement and returning both to my attention as soon as possible. Because we must drill this well as a "package" with 5 other PC wells in order for it to be economic, we will proceed to initiate force-pooling measures to ensure the timely consolidation of all interests. If you have any questions, please feel free to contact me at (303) 830-4844.

Yours very truly,

Julie Talbot Jenkins
Senior Land Negotiator

JAT/ms
encl.

ADDRESSEE LIST
Burnham Gas Com /B/ #1

✓ Rosalind Redfern
P. O. Box 2127
Midland, TX 79702

The Estate of John J. Redfern, Jr.
c/o John J. Redfern III, Independent Executor
P. O. Box 46
Midland, TX 79702

✓ Kerr-McGee Corp.
P. O. Box 25861
Oklahoma City, OK 73125

✓ Jack Markham
1500 Broadway
Lubbock, TX 79401

✓ Richardson Production Company
1700 Lincoln, Suite 1700
Denver, CO 80203

✓ Estate of John J. Christmann, deceased
c/o Christmann Mineral Company
1500 Broadway, Suite 800
Lubbock, TX 79407



MY COPY

Southern

Rockies

Business

Unit

March 13, 1995

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Re: Fruitland Coal/Pictured Cliffs Well Proposal
Burnham Gas Com /B/ #1
W/2 of Section 12-T29N-R13W
San Juan County, New Mexico

WORKING INTEREST OWNERS - ADDRESSEE LIST ATTACHED

Gentlemen:

Reference is made to our previous letter dated February 14, 1995 proposing to drill a Pictured Cliffs well in the SW/4 of Section 12-T29N-R13W, San Juan County, New Mexico. Amoco Production Company now wishes to propose to drill a Fruitland Coal/Pictured Cliffs downhole commingled well on the captioned acreage. The spacing unit for the Fruitland Coal well will be the W/2 of Section 12 and the spacing unit for the Pictured Cliffs formation will be the SW/4 of Section 12. Enclosed for your review are two AFE's outlining the estimated cost of the project. One AFE shows the costs that will be borne by the Fruitland Coal owners and the other shows costs that will be borne by the Pictured Cliffs owners. Also enclosed is a new Operating Agreement which we are proposing to use to govern the operations of this well. Exhibit "A" of the Operating Agreement sets forth what our records indicate your interest to be in the Fruitland Coal and Pictured Cliffs formations.

Please indicate your approval to join in this project by signing both the AFE and Operating Agreement and returning both to my attention as soon as possible. If you have any questions, please feel free to contact me at (303) 830-4844.

Yours very truly,

Julie Talbot Jenkins
Senior Land Negotiator

JAT/ms
encl.

ADDRESSEE LIST
Burnham Gas Com /B/ #1

Rosalind Redfern
P. O. Box 2127
Midland, TX 79702-2127

The Estate of John J. Redfern, Jr.
c/o John J. Redfern III, Independent Executor
P. O. Box 50896
Midland, TX 79710-0896

Kerr-McGee Corporation
P. O. Box 25861
Oklahoma City, OK 73125-0861

Jack Markham
1500 Broadway, Suite 1212
Lubbock, TX 79401-3192

Manon Markham McMullen
2200 Berkeley
Wichita Falls, TX 76308

Roderick Allen Markham
1500 Broadway, Suite 1212
Lubbock, TX 79401

Richardson Production Company
1700 Lincoln, Suite 1700
Denver, CO 80203

Estate of John J. Christmann, deceased
c/o Christmann Mineral Company
1500 Broadway, Suite 800
Lubbock, TX 79401-3104

Drilling Authorization

Property - Burnham Gas Com /A/, Well# 1

SAN JUAN County, NEW MEXICO

Operating Field -
Production Company

Property FLAC - 189552

Grotke

Well FLAC -
Well Type - Gas

Operator: AMOCO PRODUCTION COMPANY

Operations Center: SAN JUAN OC
AMOCO's Interest: 0.8338000

LPN#: 687773---
Contract#: 000000

Estimated - Total Depth: 1581
Horizon
PC

Reg. Field

Target Depth
1288

Completion: Single

Well Location: 1450' ~~N~~ x 1520' FWL sec. 12 - T29N - R13W

Nearest Hole Location: Same

Summary (Development)	Gross Dry Hole	Gross Completion
Drilling Intangibles		
Drilling Cost:	\$36,000	\$36,000
Day Work:	\$2,160	\$4,260
Location:	\$5,000	\$5,000
Survey:	\$5,000	\$7,000
Mud:	\$7,000	\$7,000
Stimulation:	\$0	\$43,000
Other:	\$13,000	\$20,400
Total Intangible:	\$68,160	\$122,660
Well Equipment - Tangibles		
Casing:	\$8,500	\$8,500
Tubing:	\$0	\$4,600
Wellhead:	\$1,500	\$2,500
Other:	\$0	\$0
Total Tangible:	\$10,000	\$15,600
Contingency:	\$12,000	\$28,000
Associated Production Facility:		\$50,000
Direct Production Facility:		\$0
Total This Request:	\$90,160	\$216,260
Previous Estimate:	\$0	\$0
Total to Date Estimate:	\$90,160	\$216,260

Cost to Non-Operator: Cost shown on this
is an estimate only. Non-Operators should
consider these estimates as establishing
a limit on the monies which will be required
to perform the proposed operation.

Non-Operator: _____
By: _____ Date: _____

Contacts:
Technical
GROTH & GROTH
P O BOX 800
DENVER, CO, 80201-0800
303-830-4079
303-830-4777 FAX

Business
Julie A Jenkins
P O BOX 800
DENVER, CO, 80201-0800
(303) 830-4844
(303) 830-4777 FAX

Drilling Authorization

Property - Burnham Gas Com /B/, Well# 1

San Juan County, NEW MEXICO

Property FLAC - 189553

Well FLAC -
Well Type - Gas

Drilling Field -
Production Company

Operator: AMOCO PRODUCTION COMPANY

Operations Center: SAN JUAN CO
AMOCO's Interest: 0.5000000

LPN#: 687774---
Contract#: 000000

Estimated - Total Depth: 1664

Horizon: PC Reg. Field

Target Depth
1381

Completion: Single

Well Location: 850' FSL x 1230' FWL sec. 12 - T29N R13W

Old Hole Location: Same

Summary (Development)

	Gross Dry Hole	Gross Completion
Drilling Intangibles		
Drilling Cost:	\$36,000	\$36,000
Day Work:	\$2,160	\$4,260
Location:	\$5,000	\$5,000
Survey:	\$5,000	\$7,000
Mud:	\$7,000	\$7,000
Stimulation:	\$0	\$43,000
Other:	\$13,000	\$20,400
Total Intangible:	\$68,160	\$122,660
Well Equipment - Tangibles		
Casing:	\$8,500	\$8,500
Tubing:	\$0	\$4,600
Wellhead:	\$1,500	\$2,500
Other:	\$0	\$0
Total Tangible:	\$10,000	\$15,600
Contingency:	\$12,000	\$28,000
Associated Production Facility:		\$50,000
Direct Production Facility:		\$0
Total This Request:	\$90,160	\$216,260
Previous Estimate:	\$0	\$0
Total to Date Estimate:	\$90,160	\$216,260

to Non-Operator: Cost shown on this
are estimates only. Non-Operators should
consider these estimates as establishing
commitment on the monies which will be required
to form the proposed operation.

Non-Operator: _____

By: _____ Date: _____

Technical
GREG E GROTKER
P O BOX 800
DENVER, CO, 80201-0800
303-830-4079
303-830-4777 FAX

Business
Julie A Jenkins
P O BOX 800
DENVER, CO, 80201-0800
(303) 830-4844
(303) 830-4777 FAX

Drilling Authorization

Property - Burnham Gas Com /B/, Well# 1
 SAN JUAN County, NEW MEXICO
 Operating Field -
 Amoco Production Company

Property FLAC - 189553

Well FLAC -
 Well Type - Gas

Operator: AMOCO PRODUCTION COMPANY
 API#:

Operations Center: SAN JUAN OC
 AMOCO's Interest: 0.5000000

LYN#: 687774---
 Contract#: 000000

Comments to Partners: This Cost estimate is revised to include a portion of the drilling and facilities and the PC completion in the proposed PC/PT commingled dual. The other portion of the drilling and facilities will be allocated to the Fruitland Coal working interest owners.

Targets - Total Depth: 1664
 Horizon Reg. Field Target Depth
 PC 1381

Completion: Single

Surface Location: 850' FSL x 1230' FWL sec. 12 - T29N - R13W

Bottom Hole Location: Same

Cost Summary (Development)	Gross Dry Hole	Gross Completion
Drilling Intangibles		
Drilling Cost:	\$18,000	\$18,000
Day Work:	\$1,080	\$3,180
Location:	\$2,500	\$2,500
Survey:	\$2,500	\$4,500
Mud:	\$3,500	\$3,500
Stimulation:	\$0	\$32,000
Other:	\$6,500	\$13,900
Total Intangible:	\$34,080	\$77,580
Well Equipment - Tangibles		
Casing:	\$4,250	\$4,250
Tubing:	\$0	\$2,300
Wellhead:	\$750	\$1,250
Other:	\$0	\$0
Total Tangible:	\$5,000	\$7,550
Contingency:	\$6,000	\$17,000
Associated Production Facility:		\$25,000
Direct Production Facility:		\$0
Total This Request:	\$45,080	\$127,380
Previous Estimate:	\$0	\$0
Total to Date Estimate:	\$45,080	\$127,380

Notice to Non-Operator: Cost shown on this form are estimates only. Non-Operators should not consider these estimates as establishing any limit on the monies which will be required to perform the proposed operation.

Non-Operator: _____
 By: _____ Date: _____

Contacts: Technical
 GREG E GROTKE
 P O BOX 800
 DENVER, CO, 80201-0800
 303-830-4079
 303-830-4777 FAX

Business
 Julie A Jenkins
 P O BOX 800
 DENVER, CO, 80201-0800
 (303) 830-4844
 (303) 830-4777 FAX

Drilling Authorization

Property - Burnham Gas Com /B/ FT, Well# 1

SAN JUAN County, NEW MEXICO
 Operating Field -
 Amoco Production Company

Property FLAC - 189553

Well FLAC -
 Well Type - Gas

Operator: AMOCO PRODUCTION COMPANY
 API#:

Operations Center: SAN JUAN OC
 AMOCO's Interest: 0.5000000

LPN#: 687774---
 Contract#: 000000

Comments to Partners: This Cost estimate includes a portion of the drilling and facilities and the FT completion in the proposed PC/FT commingled dual. The other portion of the drilling and facilities will be allocated to the Pictured Cliffs working interest owners.

Targets - Total Depth: 1664
 Horizon FT Reg. Field Target Depth 1140

Completion: Single

Surface Location: 850' FSL x 1230' FWL sec. 12 - T29N - R13W

Bottom Hole Location: Same

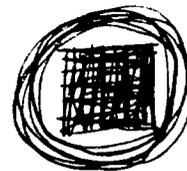
Cost Summary (Development)	Gross Dry Hole	Gross Completion
Drilling Intangibles		
Drilling Cost:	\$18,000	\$18,000
Day Work:	\$1,080	\$3,180
Location:	\$2,500	\$2,500
Survey:	\$2,500	\$4,500
Mud:	\$3,500	\$3,500
Stimulation:	90	\$38,000
Other:	\$6,500	\$13,900
Total Intangible:	\$34,080	\$83,580
Well Equipment - Tangibles		
Casing:	\$4,250	\$4,250
Tubing:	90	\$2,300
Wellhead:	\$750	\$1,250
Other:	90	90
Total Tangible:	\$5,000	\$7,800
Contingency:	\$6,000	\$17,000
Associated Production Facility:		\$25,000
Direct Production Facility:		90
Total This Request:	\$45,080	\$133,380
Previous Estimate:	90	90
Total to Date Estimate:	\$45,080	\$133,380

Notice to Non-Operator: Cost shown on this form are estimates only. Non-Operators should not consider these estimates as establishing any limit on the monies which will be required to perform the proposed operation.

Non-Operator: _____
 By: _____ Date: _____

Contacts: **Technical**
 GREG E GROTHE
 P O BOX 800
 DENVER, CO, 80201-0800
 303-830-4079
 303-830-4777 FAX

Business
 Julie A Jenkins
 P O BOX 800
 DENVER, CO, 80201-0800
 (303) 830-4844
 (303) 830-4777 FAX



AFE Comparison

Burnham Gas Com A #1

Total AFE

Richardson Operating Company	\$152,117
Amoco Corporation	\$216,260
<hr/>	
Total Difference =	\$64,143

STIMULATION

ROPCO	\$24,000
AMOCO	\$43,000

now agree w/ Rich

19,000

COMPRESSOR

ROPCO	\$0
AMOCO	\$30,000

30,000

CONTINGENCY

ROPCO	\$12,517
AMOCO	\$28,000

15,483

Difference of Major Items = \$64,483

AFE Comparison

Burnham Gas Com B #1

	Total AFE
Richardson Operating Company	\$193,979
Amoco Corporation	\$260,760
<hr/>	
Total Difference =	\$66,781

STIMULATION

ROPCO	\$48,000
AMOCO	\$70,000

COMPRESSOR

ROPCO	\$0
AMOCO	\$30,000

CONTINGENCY

ROPCO	\$16,279
AMOCO	\$34,000

Difference of Major Items = \$69,721

Compulsory Pooling

Ernst & Young

5,000

plus CAPS # 4/2-450

- **Charge for Supervision**

- Drilling - \$3582 / month

- Producing - \$498 / month

- **Charge for Risk**

- Fruitland Coal - 156%

- Pictured Cliffs - 200%

III. OVERHEAD

1. Overhead - Drilling and Producing Operations

i. As compensation for administrative, supervision, office services and warehousing costs, Operator shall charge drilling and producing operations on either:

- (X) Fixed Rate Basis, Paragraph 1A, or
- () Percentage Basis, Paragraph 1B

Unless otherwise agreed to by the Parties, such charge shall be in lieu of costs and expenses of all offices and salaries or wages plus applicable burdens and expenses of all personnel, except those directly chargeable under Paragraph 3A, Section II. The cost and expense of services from outside sources in connection with matters of taxation, traffic, accounting or matters before or involving governmental agencies shall be considered as included in the overhead rates provided for in the above selected Paragraph of this Section III unless such cost and expense are agreed to by the Parties as a direct charge to the Joint Account.

ii. The salaries, wages and Personal Expenses of Technical Employees and/or the cost of professional consultant services and contract services of technical personnel directly employed on the Joint Property:

- () shall be covered by the overhead rates, or
- (X) shall not be covered by the overhead rates.

iii. The salaries, wages and Personal Expenses of Technical Employees and/or costs of professional consultant services and contract services of technical personnel either temporarily or permanently assigned to and directly employed in the operation of the Joint Property:

- (X) shall be covered by the overhead rates, or
- () shall not be covered by the overhead rates.

A. Overhead - Fixed Rate Basis

(1) Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate \$ 3,582.00
(Prorated for less than a full month)

Producing Well Rate \$ 498.00

(2) Application of Overhead - Fixed Rate Basis shall be as follows:

(a) Drilling Well Rate

- (1) Charges for drilling wells shall begin on the date the well is spudded and terminate on the date the drilling rig, completion rig, or other units used in completion of the well is released, whichever is later, except that no charge shall be made during suspension of drilling or completion operations for fifteen (15) or more consecutive calendar days.
- (2) Charges for wells undergoing any type of workover or recompletion for a period of five (5) consecutive work days or more shall be made at the drilling well rate. Such charges shall be applied for the period from date workover operations, with rig or other units used in workover, commence through date of rig or other unit release, except that no charge shall be made during suspension of operations for fifteen (15) or more consecutive calendar days.

(b) Producing Well Rates

- (1) An active well either produced or injected into for any portion of the month shall be considered as a one-well charge for the entire month.
- (2) Each active completion in a multi-completed well in which production is not commingled down hole shall be considered as a one-well charge providing each completion is considered a separate well by the governing regulatory authority.
- (3) An inactive gas well shut in because of overproduction or failure of purchaser to take the production shall be considered as a one-well charge providing the gas well is directly connected to a permanent sales outlet.
- (4) A one-well charge shall be made for the month in which plugging and abandonment operations are completed on any well. This one-well charge shall be made whether or not the well has produced except when drilling well rate applies.
- (5) All other inactive wells (including but not limited to inactive wells covered by unit allowable, lease allowable, transferred allowable, etc.) shall not qualify for an overhead charge.

(6) The well rates shall be adjusted as of the first day of April each year following the effective date of the agreement to which this Accounting Procedure is attached. The adjustment shall be computed by multiplying the rate currently in use by the percentage increase or decrease in the average weekly earnings of Crude Petroleum and Gas Production Workers for the last calendar year compared to the calendar year preceding as shown by the index of average weekly earnings of Crude Petroleum and Gas Production Workers as published by the United States Department of Labor, Bureau of Labor Statistics, or the equivalent Canadian index as published by Statistics Canada, as applicable. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.

B. Overhead - Percentage Basis

(1) Operator shall charge the Joint Account at the following rates:

1 Deepening, Re-completing or Plugging Back, or a Completion pursuant to Article VI.C.1. Option No. 2, all of such Non-
 2 Consenting Party's interest in the production obtained from the operation in which the Non-Consenting Party did not elect
 3 to participate. Such relinquishment shall be effective until the proceeds of the sale of such share, calculated at the well, or
 4 market value thereof if such share is not sold (after deducting applicable ad valorem, production, severance, and excise taxes,
 5 royalty, overriding royalty and other interests not excepted by Article III.C. payable out of or measured by the production
 6 from such well accruing with respect to such interest until it reverts), shall equal the total of the following:

7 (i) ~~100~~ % of each such Non-Consenting Party's share of the cost of any newly acquired surface equipment
 8 beyond the wellhead connections (including but not limited to stock tanks, separators, treaters, pumping equipment and
 9 piping), plus 100% of each such Non-Consenting Party's share of the cost of operation of the well commencing with first
 10 production and continuing until each such Non-Consenting Party's relinquished interest shall revert to it under other
 11 provisions of this Article, it being agreed that each Non-Consenting Party's share of such costs and equipment will be that
 12 interest which would have been chargeable to such Non-Consenting Party had it participated in the well from the beginning
 13 of the operations; and

14 (ii) 300 % of (a) that portion of the costs and expenses of drilling, Reworking, Sidetracking, Deepening,
 15 Plugging Back, testing, Completing, and Re-completing, after deducting any cash contributions received under Article VIII.C.,
 16 and of (b) that portion of the cost of newly acquired equipment in the well (to and including the wellhead connections),
 17 which would have been chargeable to such Non-Consenting Party if it had participated therein.

18 Notwithstanding anything to the contrary in this Article VI.B., if the well does not reach the deepest objective Zone
 19 described in the notice proposing the well for reasons other than the encountering of granite or practically impenetrable
 20 substance or other condition in the hole rendering further operations impracticable, Operator shall give notice thereof to each
 21 Non-Consenting Party who submitted or voted for an alternative proposal under Article VI.B.6. to drill the well to a
 22 shallower Zone than the deepest objective Zone proposed in the notice under which the well was drilled, and each such Non-
 23 Consenting Party shall have the option to participate in the initial proposed Completion of the well by paying its share of the
 24 cost of drilling the well to its actual depth, calculated in the manner provided in Article VI.B.4. (a). If any such Non-
 25 Consenting Party does not elect to participate in the first Completion proposed for such well, the relinquishment provisions
 26 of this Article VI.B.2. (b) shall apply to such party's interest.

27 (c) Reworking, Re-completing or Plugging Back. An election not to participate in the drilling, Sidetracking or
 28 Deepening of a well shall be deemed an election not to participate in any Reworking or Plugging Back operation proposed in
 29 such a well, or portion thereof, to which the initial non-consent election applied that is conducted at any time prior to full
 30 recovery by the Consenting Parties of the Non-Consenting Party's recoupment amount. Similarly, an election not to
 31 participate in the Completing or Re-completing of a well shall be deemed an election not to participate in any Reworking
 32 operation proposed in such a well, or portion thereof, to which the initial non-consent election applied that is conducted at
 33 any time prior to full recovery by the Consenting Parties of the Non-Consenting Party's recoupment amount. Any such
 34 Reworking, Re-completing or Plugging Back operation conducted during the recoupment period shall be deemed part of the
 35 cost of operation of said well and there shall be added to the sums to be recouped by the Consenting Parties _____ % of
 36 that portion of the costs of the Reworking, Re-completing or Plugging Back operation which would have been chargeable to
 37 such Non-Consenting Party had it participated therein. If such a Reworking, Re-completing or Plugging Back operation is
 38 proposed during such recoupment period, the provisions of this Article VI.B. shall be applicable as between said Consenting
 39 Parties in said well.

40 (d) Recoupment Matters. During the period of time Consenting Parties are entitled to receive Non-Consenting Party's
 41 share of production, or the proceeds therefrom, Consenting Parties shall be responsible for the payment of all ad valorem,
 42 production, severance, excise, gathering and other taxes, and all royalty, overriding royalty and other burdens applicable to
 43 Non-Consenting Party's share of production not excepted by Article III.C.

44 In the case of any Reworking, Sidetracking, Plugging Back, Re-completing or Deepening operation, the Consenting
 45 Parties shall be permitted to use, free of cost, all casing, tubing and other equipment in the well, but the ownership of all
 46 such equipment shall remain unchanged; and upon abandonment of a well after such Reworking, Sidetracking, Plugging Back,
 47 Re-completing or Deepening, the Consenting Parties shall account for all such equipment to the owners thereof, with each
 48 party receiving its proportionate part in kind or in value, less cost of salvage.

49 Within ninety (90) days after the completion of any operation under this Article, the party conducting the operations
 50 for the Consenting Parties shall furnish each Non-Consenting Party with an inventory of the equipment in and connected to
 51 the well, and an itemized statement of the cost of drilling, Sidetracking, Deepening, Plugging Back, testing, Completing,
 52 Re-completing, and equipping the well for production; or, at its option, the operating party, in lieu of an itemized statement
 53 of such costs of operation, may submit a detailed statement of monthly billings. Each month thereafter, during the time the
 54 Consenting Parties are being reimbursed as provided above, the party conducting the operations for the Consenting Parties
 55 shall furnish the Non-Consenting Parties with an itemized statement of all costs and liabilities incurred in the operation of
 56 the well, together with a statement of the quantity of Oil and Gas produced from it and the amount of proceeds realized from
 57 the sale of the well's working interest production during the preceding month. In determining the quantity of Oil and Gas
 58 produced during any month, Consenting Parties shall use industry accepted methods such as but not limited to metering or
 59 periodic well tests. Any amount realized from the sale or other disposition of equipment newly acquired in connection with
 60 any such operation which would have been owned by a Non-Consenting Party had it participated therein shall be credited
 61 against the total unreturned costs of the work done and of the equipment purchased in determining when the interest of such
 62 Non-Consenting Party shall revert to it as above provided; and if there is a credit balance, it shall be paid to such Non-
 63 Consenting Party. *See page 7a.

64 If and when the Consenting Parties recover from a Non-Consenting Party's relinquished interest the amounts provided
 65 for above, the relinquished interests of such Non-Consenting Party shall automatically revert to it as of 7:00 a.m. on the day
 66 following the day on which such recoupment occurs, and, from and after such reversion, such Non-Consenting Party shall
 67 own the same interest in such well, the material and equipment in or pertaining thereto, and the production therefrom as
 68 such Non-Consenting Party would have been entitled to had it participated in the drilling, Sidetracking, Reworking,
 69 Deepening, Re-completing or Plugging Back of said well. Thereafter, such Non-Consenting Party shall be charged with and
 70 shall pay its proportionate part of the further costs of the operation of said well in accordance with the terms of this
 71 agreement and Exhibit "C" attached hereto.

72 3. Stand-By Costs: When a well which has been drilled or Deepened has reached its authorized depth and all tests have
 73 been completed and the results thereof furnished to the parties, or when operations on the well have been otherwise
 74 terminated pursuant to Article VI.F., stand-by costs incurred pending response to a party's notice proposing a Reworking,