

**CASE 4774: Application of AMOCO  
FOR A PRESSURE MAINTENANCE  
PROJECT EXPANSION, CHAVES COUNTY.**

Case Number

4774

Application

Transcripts

Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
STATE LAND OFFICE  
SANTA FE, NEW MEXICO  
Wednesday, July 26, 1972

## EXAMINER HEARING

## IN THE MATTER OF:

Application of Union Texas Petroleum,  
a Division of Allied Chemical  
Corporation, for a pressure  
maintenance project, Chaves County,  
New Mexico.

Docket No. 16-72  
Case No. 4773

## IN THE MATTER OF:

Application of Amoco Production Company  
for a pressure maintenance project  
expansion, Chaves County, New Mexico.

Docket No. 16-72  
Case No. 4774

BEFORE: DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

dearnley, meier &amp; mc cormick reg. atty. gen. sev.

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P R O C E E D I N G S

MR. HATCH: Case 4774, application of Amoco Production Company for a pressure maintenance project expansion, Chaves County, New Mexico.

MR. HINKLE: May it please the Examiner there is a companion case on this docket on the application of Union Texas Petroleum. It is case 4773. It might expedite matters and shorten the overall length of these two cases if you would consolidate them for purposes of making a record.

MR. NUTTER: We will also call case 4773.

MR. HATCH: Case 4773, application of Union Texas Petroleum, a Division of Allied Chemical Corporation, a pressure maintenance project, Chaves County, New Mexico.

MR. NUTTER: For the purposes of testimony cases 4773 and 4774 will be consolidated.

MR. HINKLE: I am Clarence Hinkle on behalf of Union Texas. In case 4774 the same appearance as in the Amoco's prior case 4770. I would like the record to reflect that Mr. Currens will be testifying in this case and was sworn in the prior case.

MR. DANIEL R. CURRENS

having already been duly sworn according to law, upon his oath, testified as follows:

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BY MR. GUY BUELL:

Q Mr. Currens, I think you pretty well identified yourself in the record of the prior case, so in connection with your testimony in case 4774, I am just going to ask you to turn to your Exhibit Number 1. What is that exhibit?

A Exhibit Number 1 is a map of the portion of the Cato-San Andres Pool in Chaves County, New Mexico. It is a portion specifically in the area of an existing injection program that Amoco operates on its Baskett "D" lease. Shown on this exhibit by some solid blue dots are the three existing injection wells that we have in this project right now.

Q Why don't you locate the Baskett "D" lease for the record.

A The Baskett "D" lease is in the east half of Section 11, Township 8 South, Range 30 East in Chaves County.

Q Now, how many additional injection wells do we intend to add?

A Four altogether.

Q Have you identified them on Exhibit 1?

A I have. They are the round wells that have little black circles around them.

Q Now, Union Texas, I understand, will convert one well. How is it identified on our exhibit?

A ~~This is their Baskett Number 1 in the northeast quarter~~

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1 of the Southwest Quarter of Section 11 and it is  
2 identified by a little black circle around it.

3 Q Now, in addition to converting another well on our Baskett  
4 "D", we are also moving our flood to two leases that we  
5 operate; is that correct?

6 A Yes. We will add one well or we are asking to add one  
7 well on the Baskett "D", the Baskett "D" Number 3. We  
8 are asking to move on into the Baskett "D" lease and put  
9 on well number 2 and putting on wells number 1 and 3.

10 Q Since we have been engaged in pressure maintenance for  
11 some time on the Baskett "D", let me direct your attention  
12 to our Exhibit Number 2. What is that exhibit?

13 A Exhibit Number 2 is a series of curves showing the perfor-  
14 mance that we have had on the Baskett "D" lease both  
15 during its primary term and since injection has commenced.

16 Q Would you briefly comment on any of the curves that you  
17 feel are noteworthy, Mr. Currens?

18 A Well, since injection commenced it can be seen by the  
19 upper curve that is colored blue in the latter part of  
20 1969 with injection into one well, the Baskett "D" Number  
21 4. Injection continued along at a rate somewhere between  
22 250 and 500 barrels of water a day for something over a  
23 year and then early in 1971 two additional wells were  
24 converted. The Baskett "D" Number 1 and Baskett "D"  
25 Number 2 injection increased--now it is on the order of

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1 950,000 barrels a day. The red curve shown on this  
2 exhibit is a lot of the gas-oil ratio that has been  
3 experienced on the lease. As you can see prior to and  
4 earlier in the early life of injection, the gas-oil ratio  
5 showed increasing trends to something up above 2,000.  
6 Since getting the first well on and more so since adding  
7 two more wells, we have had a considerable gas-oil ratio  
8 decrease down to less than 1,000 cubic feet per barrel.  
9 Oil production was in a sharp decline prior to injection  
10 and continued some decline during the early stage of  
11 injection. That decline has been arrested considerably  
12 since adding the last two wells in the expansion program  
13 such that now oil production is about 60 barrels a day.  
14 Water production currently is about 219 barrels a day.

15 Q With respect to our Baskett "D", we certainly see some  
16 reflections in performance that encourage us sufficiently  
17 that we do want to expand our activities?

18 A We have good gas-oil ratio response and we are arresting  
19 decline on the oil.

20 Q Let's look now at Exhibit 3.

21 A Our Baskett "B" lease performance is indicated on Exhibit  
22 3, two producing wells on the lease. The gas-oil ratio  
23 has been quite high. It is currently about forty-six  
24 fifty cubic feet per barrel. Our oil production has now  
25 ~~declined to only six barrels of oil per day with about~~

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1 54 barrels of water.

2 Q Now, the proposed well that we want to convert to injec-  
3 tion on the Baskett "B", what is it doing now?

4 A That is well number 2. It is located in Unit C of  
5 section 11 and the latest test I have on this is two  
6 barrels of oil and two barrels of water a day.

7 Q Let's jump back to the Baskett "D". What is the well  
8 that we intend to convert to injection on that lease  
9 doing at this time?

10 A That is well number 3. It is located in Unit O, Section  
11 11 and the latest test I have on it is six barrels of  
12 oil and three barrels of water a day.

13 Q Let's look at the performance curve on the Wasley lease  
14 which is even further removed from any injection operations  
15 in the Baskett "B". That has been identified as Exhibit  
16 Number 4. Would you comment on it, please?

17 A Well, the Wasley lease which is the north half of Section  
18 14 of the same township and range, we mentioned earlier,  
19 has its performance depicted on Exhibit 4. The gas and  
20 oil ratio actually is a little off scale or above scale  
21 on this exhibit with the latest number I have being about  
22 12,600 cubic feet per barrel. There are eight producing  
23 wells on the lease and oil production has declined  
24 severely over the last couple of years. Oil and water  
25 production are now both at about 27 barrels a day.



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1 Q We are going to convert two wells on the Wasley lease;  
2 is that correct, to injection?

3 A Yes, sir.

4 Q State for the record and identify those wells and state  
5 what they are currently doing at this time.

6 A The Wasley Number 1 which is located in Unit C, the last  
7 data I have is six barrels of oil and two barrels of water  
8 a day. The Wasley Number 3 which is located in Unit A  
9 was three barrels of oil and one barrel of water per day.

10 Q Mr. Currens, Exhibit 5, 6, 7 and 8 are schematic diagrams  
11 of each of the four wells we have proposed to convert and  
12 attached to the schematic diagram is a log of the indivi-  
13 dual wells. Let me identify them for the record.

14 Exhibit 5 is a schematic and log on the Baskett "B"  
15 Number 2. Six is the same information on our Baskett "D"  
16 Number 3. Seven is the same information on our Wasley  
17 Number 3 and 8 is the same information on our Wasley  
18 Number 1. It seems to me that these are almost identical.  
19 Mr. Currens. Would you just pick one and comment so the  
20 record will reflect generally what our proposed method  
21 of completion of these wells is?

22 A I will just take the first of those exhibits, Number 5,  
23 which is the Baskett "B" Number 2 and what we show on  
24 Exhibit 5 is the mechanical condition of the well. We  
25 show where the surface casing is set and in this case it

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1 is eight and five-eighths inch casing set at 461 feet  
2 with cement circulated. We show the oil string casing  
3 which in this case is four and a half inch casing and  
4 it is set at thirty-five thirty-two which is cemented with  
5 600 sacks and the top of the cement is at 950 feet. We  
6 show that as an appropriate plug back and total depth on  
7 each of these exhibits we show the perforated intervals  
8 which in this case are three sets of perforations with  
9 the uppermost one being at thirty-three eighty-three and  
10 the lowermost perforation being at thirty-four seventy-  
11 seven. Then we show our proposal for injection which  
12 would be to run a tension packer and set it above the  
13 perforations using two and three eighths internally  
14 coated tubing plastic coated tubing and commence injection  
15 down that string with the annulus space between the tubing  
16 string and the oil string casing filled with an inhibited  
17 fluid to make it--to prevent corrosion.

18 Q Mr. Currens, in your opinion, will expansion of our  
19 pressure maintenance program and our water flood program  
20 as you have outlined as well as your knowledge of the  
21 proposed actions of Union Texas in the next case coming  
22 up, do you think this will serve conservation through  
23 prevention of waste and increase of ultimate production?

24 A Yes, sir. I think it is definitely needed for that  
25 purpose. We have seen some 17 beneficial responses and

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1 it looks to me like we just need more injection out here.  
2 Q Mr. Currens, would you anticipate that if we keep getting  
3 the encouraging results that we have seen today that further  
4 expansion not only on the leases which are the subject  
5 matter of the application here today but on other leases  
6 in this area of the Cato-San Andres oil pool--

7 A Yes, sir, I think it is entirely logical that continuation  
8 of this program would perhaps not only add more wells on  
9 these leases that are subject to this application, but  
10 would even spread perhaps to other leases in at least this  
11 portion of the pool.

12 Q In view of that, do you have another recommendation for  
13 the Examiner and the Commission?

14 A Yes, sir. I would like to recommend that an order be  
15 issued on this, of course, granting what we are asking  
16 for here today in the way of this expansion, but that it  
17 further provide that expansion to other leases in this  
18 same portion of the field could be obtained administratively

19 Q Do you have any other comments or recommendations to  
20 make in case 4774?

21 A I think not.

22 MR. BUELL: May it please the Examiner, that is all  
23 we have in the way of direct. I would like to formally offer  
24 our Exhibits 1 through 8 inclusive.

25 MR. NUTTER: Amoco Exhibits 1 through 8 are admitted

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1 into evidence.

2 MR. Currens, the project to-date has been confined  
3 to one lease and now you are going on to two additional leases.  
4 Is there any variation in the ownership between the Baskett "D"  
5 lease and the Baskett "E" lease?

6 THE WITNESS: I am unable to find it if there is.

7 MR. NUTTER: So as far as you know it is all one  
8 lease, then?

9 THE WITNESS: Yes, sir. I think it is basically  
10 the same.

11 MR. NUTTER: You recognize of course that if there  
12 was any variation in ownership you couldn't transfer any  
13 allowable across those lease lines?

14 THE WITNESS: Yes, sir.

15 MR. NUTTER: This would be a project all its own and  
16 allowables would be confined to wells on that lease?

17 THE WITNESS: Yes, sir. That is what we would contem-  
18 plate, yes, sir.

19 MR. NUTTER: And the casing and cementing program  
20 and the tubing program and filling the annulus with fluid and  
21 all that that you went through on Exhibit 5 would apply to all  
22 other wells you are proposing?

23 THE WITNESS: Yes. You would just be using 5 as an  
24 example.

25 MR. NUTTER: It is typical?

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1 THE WITNESS: It is typical.

2 MR. NUTTER: Are there further questions of Mr.

3 Currens? He may be excused.

4 Do you have any further testimony in your case?

5 MR. BUELL: NO, Mr. Examiner.

6

7

MR. HOWARD M. PERDUE

8 having been first duly sworn according to law, upon his oath,

9 testified as follows:

10

DIRECT EXAMINATION

11

BY MR. CLARENCE HINKLE:

12

Q State your name and address and by whom employed.

13

A My name is Howard M. Perdue. I am from Midland, Texas

14

and I am employed by Union Texas Petroleum, a division

15

of Allied Chemical Corporation.

16

Q Have you previously testified before the Commission and  
17 qualified as a petroleum engineer?

18

A Yes, sir, I have.

19

Q Your qualifications are a matter of record with the  
20 Commission?

21

A That's true.

22

MR. HINKLE: Is that satisfactory?

23

MR. NUTTER: Yes, sir, please proceed.

24

Q (By Mr. Hinkle) Are you familiar with the application of  
25 Union Texas in case 4773?

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- 1 A Yes, sir.
- 2 Q What is Union Texas seeking to accomplish by this
- 3 application?
- 4 A Actually this application was made in cooperation with
- 5 the Amoco project that was previously authorized in this
- 6 area. Union Texas proposes to convert their Baskett
- 7 Number 1 well which is an offset to the Amoco Baskett "D"
- 8 lease and the Amoco Baskett "B" lease and the Amoco-Wasley
- 9 lease. This, as I said, will be in a cooperative effort
- 10 with the Amoco project and Union Texas proposes to convert
- 11 this well along those lines.
- 12 Q Do you intend this as a separate pressure maintenance
- 13 project from Amoco or as kind of a supplement to it?
- 14 A It will be a cooperative effort. We will inject water
- 15 into our well. Actually the water will be supplied by
- 16 Amoco.
- 17 Q The application calls for authority to institute a pressure
- 18 of maintenance project in Cato-San Andres Pool by the
- 19 injection of water into the San Andres formation through
- 20 its Baskett well number 1. Now, is that what you intended
- 21 by your application?
- 22 A As a matter of fact, we have completed a cooperative
- 23 agreement with Amoco and we had at the time thought that
- 24 it might be possible for Amoco to actually handle the
- 25 authorization to convert this well, but apparently that

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1 was impossible so that is the basis for our making  
2 application.

3 Q You have no objection to the Commission treating this as  
4 a separate part if they desire to do so?

5 A That's all right. However, it really is a cooperative  
6 effort.

7 Q You have heard the testimony introduced in case 4774.  
8 Do you agree with the testimony?

9 A We have been in communication with the Amoco representa-  
10 tive all along in this effort and we certainly do agree  
11 with the testimony presented in their case.

12 Q Have you prepared or have there been prepared under your  
13 direction certain exhibits for introduction in the case?

14 A Yes, sir.

15 Q Refer to Exhibit Number 1 and explain what this is and  
16 what it shows.

17 A Our Exhibit Number 1 is a plat of the Cato field and in  
18 particular the Section 11 of Township 8 south and it shows  
19 in addition the Union Texas Petroleum Baskett Number 1  
20 well and Unit K and along with the other wells of Amoco's  
21 that will be also part of this overall project.

22 Q The new injection wells will be those that are in triangles?

23 A The new wells are indicated by a triangle. The wells  
24 that have previously been authorized are shown as circles,  
25 the injection wells.

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- 1 Q There is only one by Union Texas?
- 2 A Yes, sir.
- 3 Q That is the Number 1?
- 4 A The Number 1 Baskett.
- 5 Q Now, refer to Exhibit 2 and explain what this is and what
- 6 it shows.
- 7 A Exhibit Number 2 is a diagrammatic sketch of the Baskett
- 8 Number 1, the proposed injection well. It shows the
- 9 casing settings. It shows the perforations. We would
- 10 plan to run plastic coated tubing on a tension packer
- 11 set at approximately 3335 feet. We would load the tubing
- 12 casing with an inhibited fluid to avoid corrosion.
- 13 Q In your opinion will the completion of this well in this
- 14 manner confine the injection into this San Andres formation?
- 15 A Yes, sir, I feel that it will.
- 16 Q Refer to Exhibit 3.
- 17 A This is the log of the injection well.
- 18 Q Do you have any comments to make with respect to the log
- 19 of the well?
- 20 A The log of the well indicates that this is of course a
- 21 permeable and productive zone. The perforations of
- 22 completion intervals are marked in red on that log.
- 23 Q If the Commission grants this application, in your opinion
- 24 would it be in the interest of conservation and prevention
- 25 of waste and tend to protect correlative rights?



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1 A Yes, sir. Union Texas Petroleum for some time has felt  
2 that a secondary project in the Cato field is warranted  
3 and we feel that this is the first step in that direction.

4 MR. HINKLE: We would like to offer Exhibits 1 through  
5 3.

6 MR. NUTTER: Union Texas Exhibits 1 through 3 will  
7 be admitted into evidence.

8 MR. HINKLE: That's all we have.

9 MR. NUTTER: Mr. Perdue, how about performance on  
10 your lease. Do you have any data equivalent to the well  
11 performance data that Mr. Currens gave?

12 THE WITNESS: I didn't prepare any.

13 MR. NUTTER: Could you tell me what this well is  
14 presently producing that you are going to convert?

15 THE WITNESS: It is presently making about five  
16 barrels of oil along with about that much water.

17 MR. NUTTER: Do you know what the other well on your  
18 lease is making?

19 THE WITNESS: It is about the same. It is very near  
20 the same. Both wells have declined drastically over the last  
21 several months.

22 MR. NUTTER: Are there any further questions of  
23 Mr. Perdue?

24 Does anyone have anything they wish to offer in  
25 case 4773 or 4774?

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1 We will take the case under advisement.

2 We will now accept a statement from Mr. Buell in  
3 connection with case number 4775.

4 MR. BUELL: Mr. Examiner, as I am sure you recall  
5 from past cases before you that it involved an associated oil  
6 and gas reservoir, Amoco has always steadfastly taken the  
7 position that the withdrawals between the two type wells, oil  
8 and gas, should be on an equitable basis. We feel the same  
9 thing should apply here at the Blinebry Pool. We agree with  
10 Continental that at this point withdrawals are not on the  
11 equitable basis. Our only reservation with regard to their  
12 recommendation is that it appears to us to be extremely  
13 complicated and we would be hopeful that we could work out  
14 something more simple. I have to admit frankly though, as of  
15 this time, Amoco has not been able to come up with a more simple  
16 recommendation but we certainly stand by the principle that the  
17 withdrawal from the two type wells should be equitable.

18 MR. NUTTER: As far as the Continental's proposal,  
19 you have no position on it at this time; is that correct?

20 MR. BUELL: Yes, sir, that is correct. It is certain-  
21 ly in the right direction. It is just complicated.

22 MR. NUTTER: Thank you, Mr. Buell.

23 MR. HINKLE: Mr. Examiner, Howard Perdue of Union  
24 Texas would like to leave and go on back. We have this case  
25 4747 which is Union Texas which I am going to make a motion

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1 that it be continued until the first Examiner's hearing in  
2 September, and if you don't mind calling it, I will so move.

3 MR. NUTTER: We will now call case number 4747.

4 MR. HATCH: Case 4747 application of Union Texas  
5 Petroleum, a Division of Allied Chemical Corporation for  
6 compulsory pooling, Lea County, New Mexico.

7 MR. HINKLE: Clarence Hinkle, Roswell, appearing on  
8 behalf of Union Texas Petroleum. We would like to move this  
9 case be continued until the first Examiner's Hearing in  
10 September.

11 MR. HATCH: I believe that is September 13.

12 MR. NUTTER: Case Number 4747 will be continued to  
13 the Examiner Hearing scheduled to be held at this same place  
14 at 9:00 o'clock A. M. September 13, 1972. Thank you very much.

15 \* \* \* \* \*

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1 STATE OF NEW MEXICO )  
 2 : ss.  
 3 COUNTY OF BERNALILLO )

4 I, MARCIA J. HUGHES, Court Reporter, do hereby certify  
 5 that the above and foregoing pages are a true and correct  
 6 transcript of the proceedings had before the New Mexico Oil  
 7 Conservation Commission on Wednesday, July 26, 1972.

8 *Marcia J. Hughes*  
 9

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22 I do hereby certify that the foregoing is  
 23 a complete record of the proceedings in  
 24 the hearing of Case No. 4773-4774  
 25 heard by the Commission on 7/26, 19 72.  
*C. J. ...* Secretary  
 New Mexico Oil Conservation Commission



# OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
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STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

August 8, 1972

Mr. Guy Buell  
Amoco Production Company  
Post Office Box 3092  
Houston, Texas 77001

Re: Case No. 4774

Order No. R-3867-B

Applicant:

Amoco Production Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr.

Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC x

Aztec OCC           

Other Mr. Clarence Hinkle

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 4774  
Order No. R-3867-B

APPLICATION OF AMOCO PRODUCTION  
COMPANY FOR A PRESSURE MAINTENANCE  
PROJECT EXPANSION, CHAVES COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 26, 1972,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 7th day of August, 1972, the Commission,  
a quorum being present, having considered the testimony, the  
record, and the recommendations of the Examiner, and being fully  
advised in the premises,

FINDS:

(1) That due public notice having been given as required  
by law, the Commission has jurisdiction of this cause and the  
subject matter thereof.

(2) That by Order No. R-3867, the applicant, Amoco  
Production Company, was authorized to institute its Cato  
Baskett Pressure Maintenance Project in the Cato-San Andres  
Pool on its Baskett "D" Lease in Chaves County, New Mexico, by  
the injection of water into the San Andres formation through  
one well located in Unit I of Section 11, Township 8 South,  
Range 30 East, NMPM.

(3) That by Order No. 3867-A the above-described pressure  
maintenance project area was expanded and two additional injec-  
tion wells received approval.

(4) That the applicant now seeks authority to expand the  
project area of said Cato Baskett Pressure Maintenance Project  
to include additional lands in said Section 11 and to institute  
a pressure maintenance project on its C. S. Wasley lease in Sec-  
tion 14 by the conversion to water injection of four additional

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Case No. 4774  
Order No. R-3867-B

wells located in said Sections as follows in Township 8 South,  
Range 30 East, NMPM:

Baskett "D" Well No. 3 - Unit O - Section 11  
Baskett "B" Well No. 2 - Unit C - Section 11  
Wasley Well No. 1 - Unit C - Section 14  
Wasley Well No. 3 - Unit A - Section 14

(5) That the expansion of the project area, the institution of an additional pressure maintenance project, and the conversion to water injection of four additional wells as proposed by the applicant is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste and will not violate correlative rights, and will afford the applicant the opportunity to produce its just and equitable share of the oil in the Cato-San Andres Pool.

(6) That the applicant further seeks a procedure whereby additional injection wells and expansion of the projects areas may be approved without the necessity of notice and hearing.

(7) That the applicant further seeks a procedure whereby additional pressure maintenance projects may be instituted in the Cato-San Andres Pool without the necessity of notice and hearing.

(8) That Orders Nos. R-3867 and R-3867-A should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to operate a pressure maintenance project in the Cato-San Andres Pool on its Baskett and Baskett "D" Leases, Chaves County, New Mexico, designated the Amoco Production Company Cato Baskett Pressure Maintenance Project by the injection of water into the San Andres formation through the following-described wells in Section 11, Township 8 South, Range 30 East, NMPM, Chaves County, New Mexico:

Baskett "D" Well No. 1 - Unit G  
Baskett "D" Well No. 2 - Unit A  
Baskett "D" Well No. 3 - Unit O  
Baskett "D" Well No. 4 - Unit I  
Baskett "B" Well No. 2 - Unit C

(2) That the applicant, Amoco Production Company, is hereby authorized to institute a pressure maintenance project in the Cato-San Andres Pool on its C. S. Wasley Lease, Chaves County, New Mexico, designated the Amoco Production Company Cato Wasley Pressure Maintenance Project by the injection of water into the



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Case No. 4774

Order No. R-3867-B

San Andres formation through the following described wells in Section 14, Township 8 South, Range 30 East, NMPM, Chaves County, New Mexico:

Wasley Well No. 1 - Unit C

Wasley Well No. 3 - Unit A

(3) That each of the aforesaid water injection wells shall be equipped with 2 3/8-inch plastic lined tubing set in a packer. Further, that the casing-tubing annulus of each of the aforesaid injection wells shall be filled with an inert fluid and the annulus equipped with a pressure gauge to facilitate detection of leakage in the tubing or packer.

(4) That Special Rules and Regulations governing the operation of the Amoco Cato Baskett and Amoco Cato Wasley Pressure Maintenance Projects, Chaves County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE  
AMOCO CATO BASKETT PRESSURE MAINTENANCE PROJECT  
AND THE  
AMOCO CATO WASLEY PRESSURE MAINTENANCE PROJECT

RULE 1. The project areas of the Maintenance Projects shall comprise the area described as follows:

CATO BASKETT PROJECT AREA  
CHAVES COUNTY, NEW MEXICO  
TOWNSHIP 8 SOUTH, RANGE 30 EAST, NMPM  
Section 11: E/2 and E/2 NW/4

CATO WASLEY PROJECT AREA  
CHAVES COUNTY, NEW MEXICO  
TOWNSHIP 8 SOUTH, RANGE 30 EAST, NMPM  
Section 14: N/2

RULE 2. The allowable for the Project shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. Allowables for injection wells may be transferred to producing wells within the project area, as may the allowables for producing wells which, in the interest of more efficient operation of the Project, are shut-in or curtailed because of high gas-oil ratio or are shut-in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.

RULE 4. The allowable assigned to any well which is shut-in or which is curtailed in accordance with the provisions of Rule 3 which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test prescribed by Rule 6, below, or greater than the current top unit allowable for the pool during the month of transfer, whichever is less.

RULE 5. The allowable assigned to any injection well on a 40-acre proration unit shall be top unit allowable for the Cato-San Andres Pool.

RULE 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2,000 to 1) for the pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire.

RULE 7. The basic allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the pool, whichever is less. Wells capable of producing more than top unit allowable may also receive transfer allowable, provided however, that no producing well in the project area which directly or diagonally offsets a well on another lease producing from the same common source of supply shall receive an allowable or produce in excess of two times top unit allowable for the pool. Each producing well shall be subject to the limiting gas-oil ratio (2,000 to 1) for the pool.

RULE 8. Each month the project operator shall, within three days after the normal unit allowable for Southeast New Mexico has been established, submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total project allowable. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for each well in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and may be produced from

the wells in the Project in any proportion except that no well in the Project which directly or diagonally offsets a well on another lease producing from the same common source of supply shall produce in excess of two times top unit allowable for the pool.

RULE 10. The conversion of producing wells to injection, the drilling of additional wells for injection, and expansion of the project area shall be accomplished only after approval of the same by the Secretary-Director of the Commission. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional injection wells shall include the following:

(1) A plat showing the location of proposed injection well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed injection well which fully describes the casing, tubing, perforated interval, and depth showing that the injection of gas or water will be confined to the San Andres formation.

(3) A letter stating that all offset operators to the proposed injection well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed injection well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

(5) The Secretary-Director of the Commission is hereby authorized to approve additional Amoco Production Company pressure maintenance projects and promulgate special rules therefor without notice and hearing on lands which are contiguous to existing Amoco Production Company or Union Texas Petroleum pressure maintenance projects in the Cato-San Andres Pool. To obtain such approval, the applicant shall file proper application with the Commission, which application shall include the following:

(a) A plat showing the proposed project area, all wells within the project area, offset operators, and wells which offset the proposed project area.

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Case No. 4774

Order No. R-3867-B

(b) A schematic drawing of the proposed injection wells which fully describes the casing, tubing, perforated interval, and depth showing that the injection of gas or water will be confined to the San Andres formation.

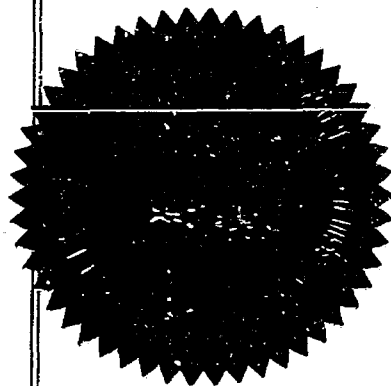
(c) A letter stating that all offset operators to the proposed project have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed project and promulgate special rules therefor if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

(6) That Commission Orders Nos. 3867 and 3867-A are hereby superseded.

(7) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.



STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Bruce King*

BRUCE KING, Chairman

*Alex J. Armiijo*

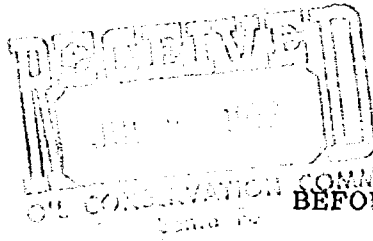
ALEX J. ARMIJO, Member

*A. L. Porter, Jr.*

A. L. PORTER, Jr., Member & Secretary

S E A L

dr/



*long*

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION )  
OF AMOCO PRODUCTION COMPANY TO )  
EXPAND CATO BASKETT PRESSURE )  
MAINTAINANCE PROJECT, CATO-SAN )  
ANDRES POOL, CHAVES COUNTY, NEW )  
MEXICO. )

Case No. 4774

ENTRY OF APPEARANCE

The undersigned Atwood, Malone, Mann & Cooter of  
Roswell, New Mexico, hereby enter their appearance herein  
for the Applicant, Amoco Production Company, with Guy  
Buell, Esquire, of Houston, Texas.

ATWOOD, MALONE, MANN & COOTER

BY *Charles S. Malone*  
Attorneys for Amoco Production  
Company  
P. O. Drawer 700  
Roswell, New Mexico 88201

(Case 4753 continued from page 1)

approval of an 80-acre non-standard oil proration unit in the East Shoe Bar-Devonian Pool comprising the NW/4 SW/4 and the SW/4 NW/4 of Section 29, Township 16 South, Range 36 East, Lea County, New Mexico, to be dedicated to a well to be drilled 1980 feet from the South line and 660 feet from the West line of said Section 29.

CASE 4769: Application of Gulf Oil Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the dual completion (conventional) of its J. R. Holt (NCT-A) Well No. 4 to be located 1980 feet from the South line and 2080 feet from the East line of Section 16, Township 24 South, Range 37 East, Lea County, New Mexico, in such a manner as to produce oil from the Fowler-Upper Yesso and Fowler-Devonian Pools through parallel strings of tubing.

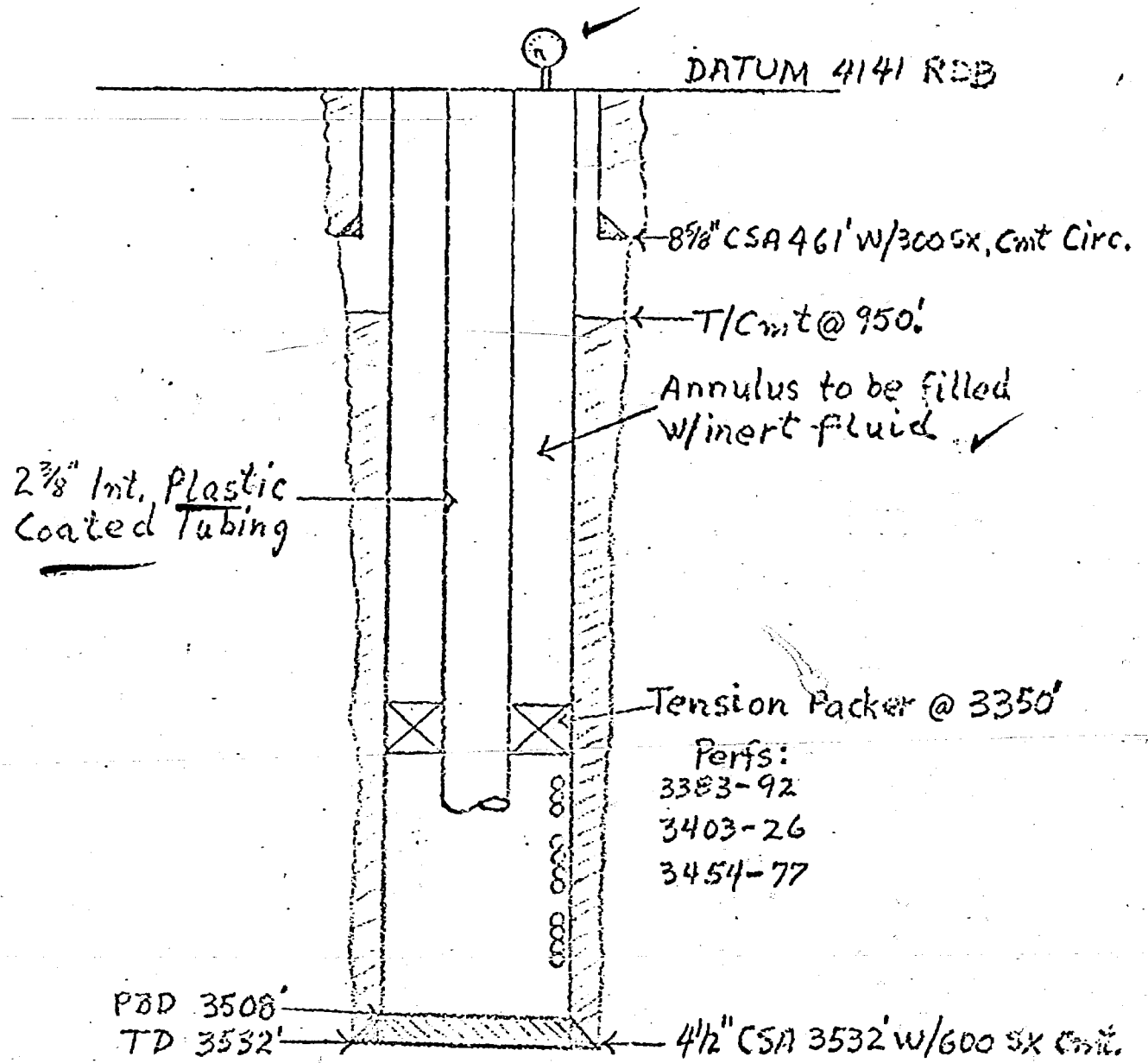
CASE 4770: Application of Amoco Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Yates and Seven Rivers formations in the open-hole interval from 3484 feet to 3514 feet in its Gorman Federal Well No. 1 located in Unit C of Section 35, Township 19 South, Range 33 East, East Gem Yates-Seven Rivers Pool, Lea County, New Mexico.

CASE 4774: Application of Amoco Production Company for a pressure maintenance project expansion, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Cato Baskett Pressure Maintenance Project, Cato-San Andres Pool, Chaves County, New Mexico, by the conversion to water injection of four additional wells located in Township 8 South, Range 30 East, as follows:

Baskett "D" Well No. 3 - Unit O - Section 11  
Baskett "B" Well No. 2 - Unit C - Section 11  
Wasley Well No. 1 - Unit C - Section 14  
Wasley Well No. 3 - Unit A - Section 14

Applicant further seeks a procedure whereby additional injection wells and expansion of the project area may be approved without the necessity of notice and hearing.

CASE 4775: Application of Continental Oil Company for amendment of special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks amendment of the special rules and regulations governing the Blinebry Pool, Lea County, New Mexico, to provide for annual bottom-hole pressure, gas-oil ratio, and gas-liquid tests in the pool. Applicant further seeks the designation of oil areas and gas areas in the pool with allowables within each area equalized on a per-acre basis and total withdrawals from the gas area to be volumetrically equivalent to the total withdrawals from the oil area.



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 5

CASE NO. Amoco

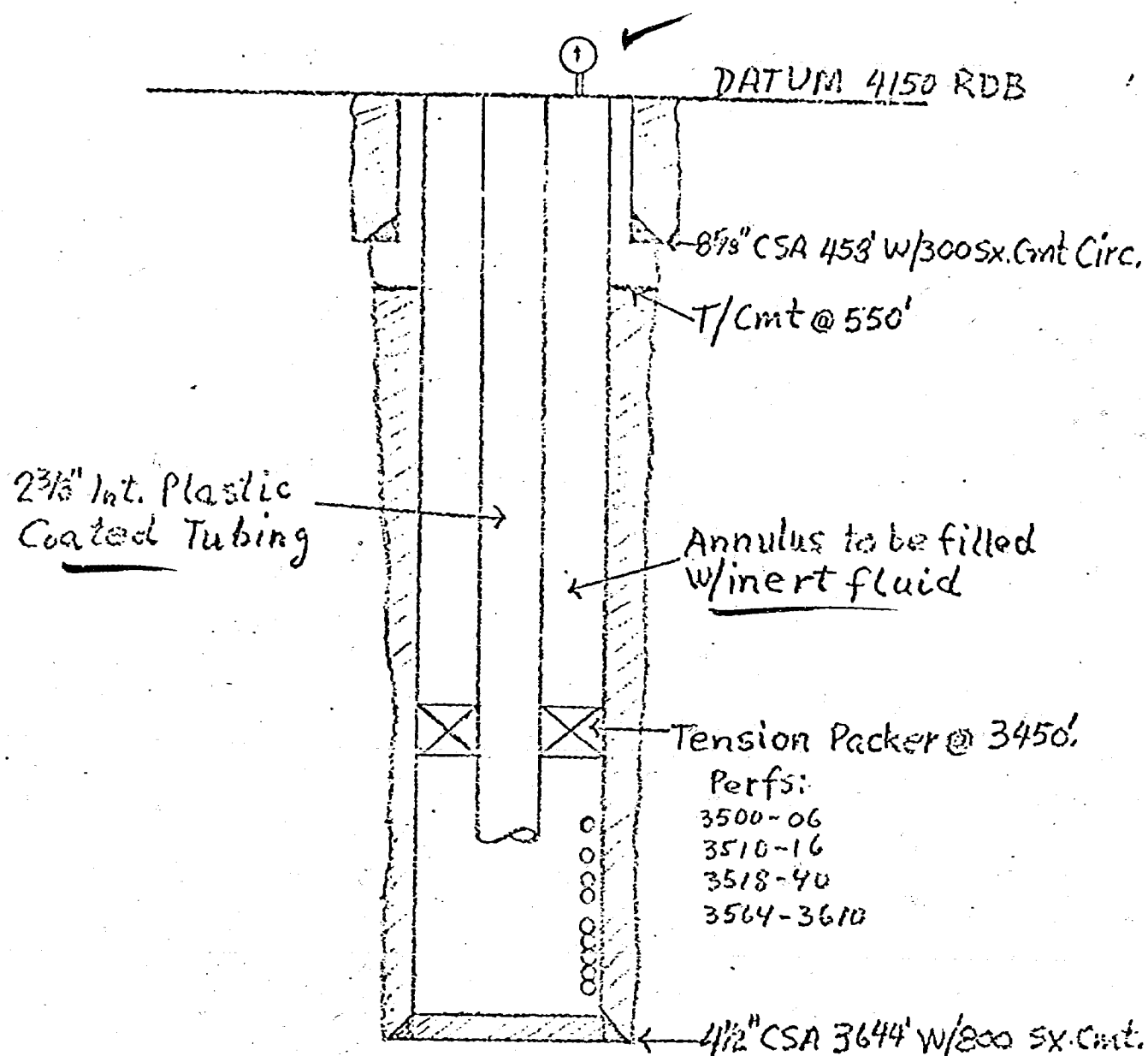
Submitted by 4774

Amoco Production Company

SCALE: 1" = 10'

AMOCO-BASKETT "B" No. 2 - PROPOSED INSPECTOR (C-11-8-30)

DRG.  
NO.



TD 3644'  
PBD 3616'

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 6

CASE NO. 4774

Submitted by Amoco

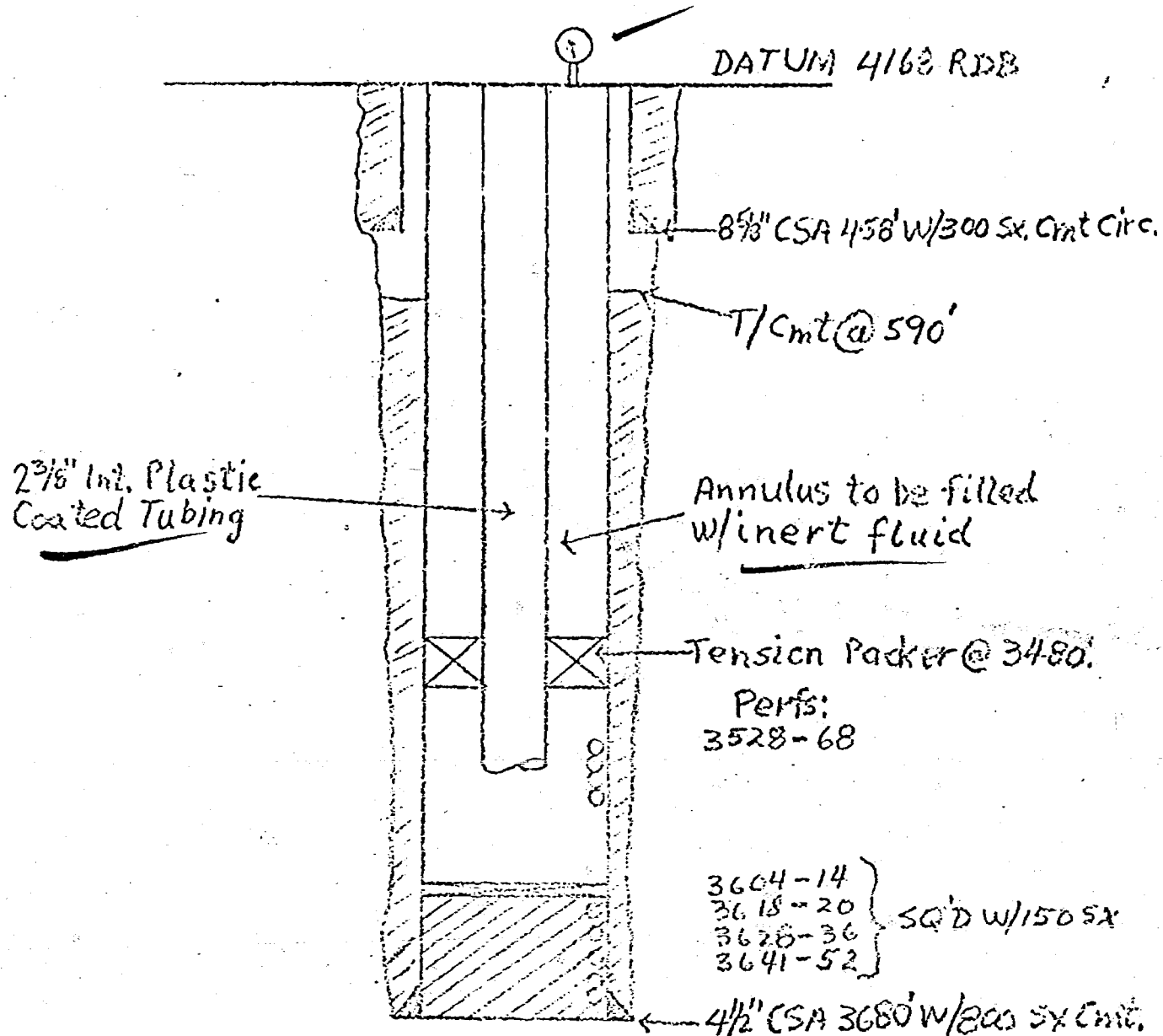
Hearing Date \_\_\_\_\_

Ex 6

Amoco Production Company	SCALE: 1" = 10'
AMOCO-BASKETT "D" N. 3 PROPOSED INJECTOR (0-11-8-30)	DRG. NO.

Copyright 1964 Amoco



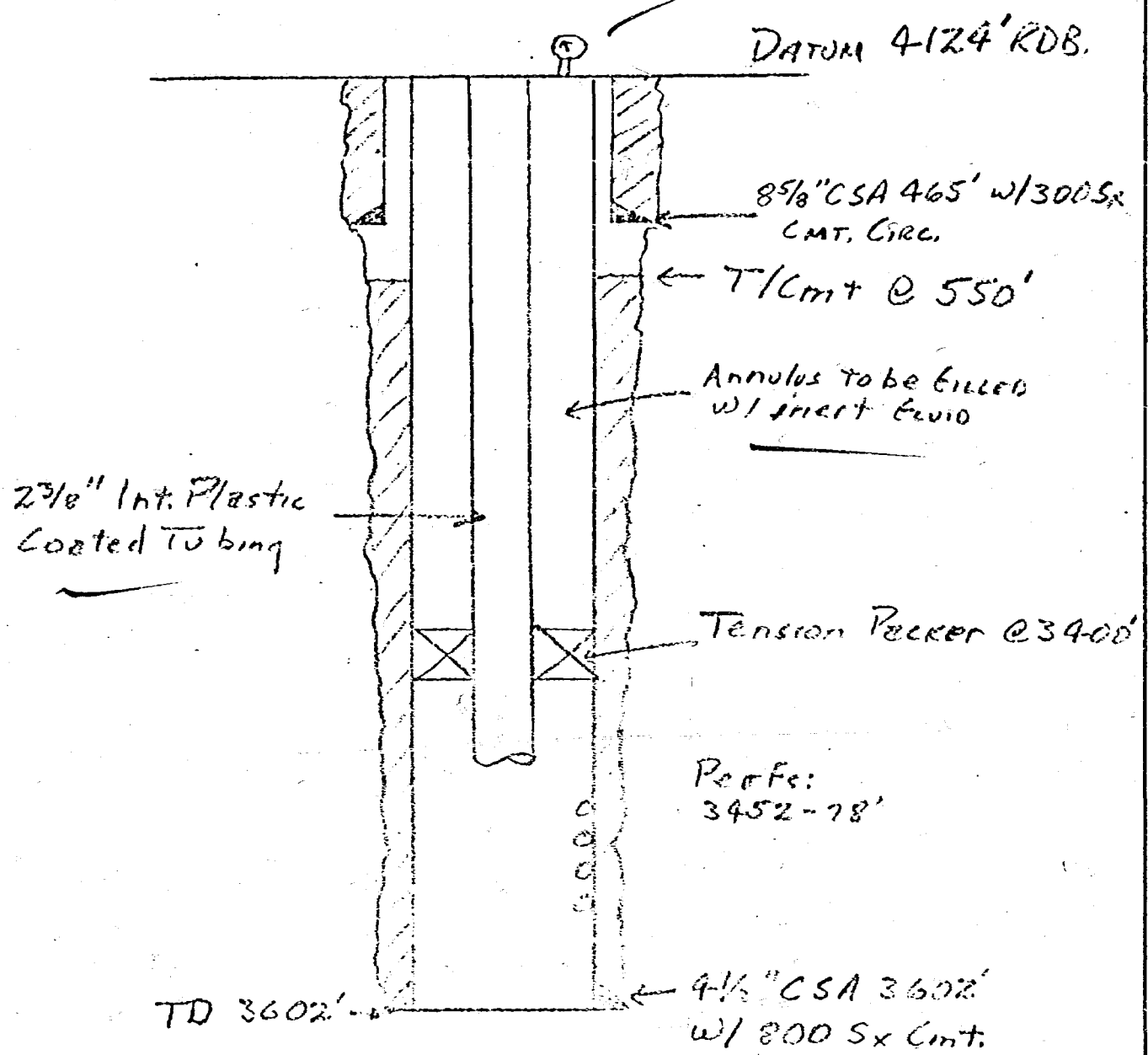


BEFORE EXAMINER NUTTER TD 3680'  
OIL CONSERVATION COMMISSION P.D. 3577'

EXHIBIT NO. 7  
CASE NO. 4774  
Submitted by Amoco  
Hearing Date \_\_\_\_\_

Ex 7

Amoco Production Company	SCALE: <u>AS SHOWN</u>
Amoco - WASLEY No. 3 - PROPOSED INJECTOR (A-14-B-30)	DRG. NO. _____



BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION	
EXHIBIT NO. <u>8</u>	
CASE NO. <u>4774</u>	
Submitted by <u>Amoco</u>	
Hearing Date _____	
Amoco Production Company	
HARCO-WASLEY No. 1 - PROPOSED INTERIOR (C-14-8-30)	
SCALE:	DRG. NO.

Ex 8

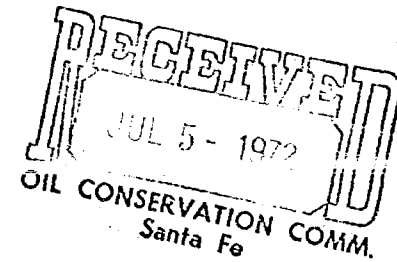


**Amoco Production Company**

500 Jefferson Building  
P.O. Box 3092  
Houston, Texas 77001

D. L. Ray  
Division Engineer

July 3, 1972



File: JMB-986.51NM-2513

Re: Request for Hearing  
Pressure Maintenance Project Expansion  
Cato (San Andres) Pool  
Chaves County, New Mexico

*Case 4774*

New Mexico Oil Conservation Commission (3)  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

Amoco Production Company respectfully requests a hearing for the purpose of expanding its Cato Baskett Pressure Maintenance Project authorized by Order No. R-3867 by the addition of injection wells on its Baskett "D" and "B" Leases and its Wasley Lease in the Cato Field, Chaves County, New Mexico. Provisions for expansion of the injection program and the cooperative injection area without the necessity for notice and hearing will also be requested.

The Amoco operated injection wells proposed by this expansion are as follows:

Baskett "D" Well No. 3 - Unit O in Section 11 T-8-S, R-30-E  
Baskett "B" Well No. 2 - Unit C Section 11 T-8-S, R-30-E  
Wasley Well No. 1 - Unit C Section 14 T-8-S, R-30-E  
Wasley Well No. 3 - Unit A Section 14 T-8-S, R-30-E

Expansion of this project will be in cooperation with Union Texas Petroleum, who will request authority to convert their Baskett Well No. 1 located in Unit "K" Section 11 T-8-S, R-30-E.

DOCKET MARKED

Date 7-14-72

New Mexico Oil Conservation Commission  
July 3, 1972  
Page 2

Attached is a map showing the area involved in this application and the location of the wells which will be converted to injection wells.

It is respectfully requested that this matter be heard at the Examiner Hearing scheduled to be held July 26. It is our understanding that Union Texas Petroleum is also requesting a hearing for the initiation of injection on their lease for that same date.

Very truly yours,

*D. L. Ray*  
*es*

Attachments

cc: Union Texas Petroleum  
1300 Wilco Building  
Midland, Texas 79701  
Attention: Mr. Howard Perdue

DRC:as

DRAFT

GMH/dr

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE No. 4774

Order No. R- 3867-B

APPLICATION OF AMOCO PRODUCTION  
COMPANY FOR A PRESSURE MAINTENANCE  
PROJECT EXPANSION, CHAVES COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 26, 1972,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this July 26 day of July 1972, the Commission, a  
quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That by Order No. R-3867, the applicant, Amoco  
Production Company, was authorized to institute its Cato Baskett  
Pressure Maintenance Project in the Cato-San Andres Pool on its  
Baskett "D" Lease in Chaves County, New Mexico, by the injection  
of water into the San Andres formation through one well located in  
Unit I of Section 11, Township 8 South, Range 30 East, NMPM.

(3) That by Order No. 3867-A the above-described pressure  
maintenance project area was expanded and two additional injection  
wells received approval.

(4) That the applicant now seeks authority to expand the project area of said Cato Baskett Pressure Maintenance Project to include additional lands in said Section 11 and to institute a pressure maintenance project on its C. S. Wasley lease in Section 14 by the conversion to water injection of four additional wells located in said Sections as follows in Township 8 South, Range 30 East, NMPM:

Baskett "D" Well No. 3 - Unit O - Section 11

Baskett "B" Well No. 2 - Unit C - Section 11

Wasley Well No. 1 - Unit C - Section 14

Wasley Well No. 3 - Unit A - Section 14

(5) That the expansion of the project area, the institution of an additional pressure maintenance project, and the conversion to water injection of four additional wells as proposed by the applicant is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste and will not violate correlative rights, and will afford the applicant the opportunity to produce its just and equitable share of the oil in the Cato-San Andres Pool.

(6) That the applicant further seeks a procedure whereby additional injection wells and expansion of the project areas may be approved without the necessity of notice and hearing.

(8) (7) That Orders Nos. R-3867 and R-3867-A should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to operate a pressure maintenance project in the Cato-San Andres Pool on its Baskett and Baskett "D" Leases, Chaves County, New Mexico, designated the Amoco Production Company Cato Baskett Pressure Maintenance Project by the injection of

(7) That the applicant further seeks a procedure whereby additional pressure maintenance projects may be instituted in the Cato-San Andres Pool without the necessity of notice and hearing.

-3-  
CASE NO. 4774  
Order No. R-3867-B

water into the San Andres formation through the following-described wells in Section 11, Township 8 South, Range 30 East, NMPM, Chaves County, New Mexico:

Baskett "D" Well No. 1 - Unit G

Baskett "D" Well No. 2 - Unit A

Baskett "D" Well No. 3 - Unit O

Baskett "D" Well No. 4 - Unit I

Baskett "B" Well No. 2 - Unit C

(2) That the applicant, Amoco Production Company, is hereby authorized to institute a pressure maintenance project in the Cato-San Andres Pool on its C. S. Wasley Lease, Chaves County, New Mexico, designated the Amoco Production Company Cato Wasley Pressure Maintenance Project by the injection of water into the San Andres formation through the following described wells in Section 14, Township 8 South, Range 30 East, NMPM, Chaves County, New Mexico:

Wasley Well No. 1 - Unit C

Wasley Well No. 3 - Unit A

(3) That each of the aforesaid water injection wells shall be equipped with 2 3/8-inch plastic lined tubing set in a packer. Further, that the casing-tubing annulus of each of the aforesaid injection wells shall be filled with an inert fluid and the annulus equipped with a pressure gauge to facilitate detection of leakage in the tubing or packer.

(4) That Special Rules and Regulations governing the operation of the Amoco Cato Baskett and Amoco Cato Wasley Pressure Maintenance Projects, Chaves County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS  
FOR THE  
AMOCO CATO BASKETT PRESSURE MAINTENANCE PROJECT  
AND THE  
AMOCO CATO WASLEY PRESSURE MAINTENANCE PROJECT

-4-  
CASE NO. 4774  
Order No. R-3867-B

RULE 1. The project areas of the Maintenance Projects shall comprise the area described as follows:

**CATO BASKETT PROJECT AREA**  
CHAVES COUNTY, NEW MEXICO  
TOWNSHIP 8 SOUTH, RANGE 30 EAST, NMPM  
Section 11: E/2 and E/2 NW/4

**CATO WASLEY PROJECT AREA**  
CHAVES COUNTY, NEW MEXICO  
TOWNSHIP 8 SOUTH, RANGE 30 EAST, NMPM  
Section 14: N/2

RULE 2. The allowable for the Project shall be the sum of the allowables of the several wells within the project area, including those wells which are shut-in, curtailed, or used as injection wells. Allowables for all wells shall be determined in a manner hereinafter prescribed.

RULE 3. Allowables for injection wells may be transferred to producing wells within the project area, as may the allowables for producing wells which, in the interest of more efficient operation of the Project, are shut-in or curtailed because of high gas-oil ratio or are shut-in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressures or changes in characteristics of reservoir liquids or progress of sweep.

RULE 4. The allowable assigned to any well which is shut-in or which is curtailed in accordance with the provisions of Rule 3 which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to produce during the test prescribed by Rule 6, below, or greater than the current top unit allowable for the pool during the month of transfer, whichever is less.



RULE 5. The allowable assigned to any injection well on a 40-acre proration unit shall be top unit allowable for the Cato-San Andres Pool.

RULE 6. The allowable assigned to any well which is shut-in or curtailed in accordance with Rule 3, shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2,000 to 1) for the pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission, if they so desire.

RULE 7. The basic allowable assigned to each producing well in the Project shall be equal to the well's ability to produce or to top unit allowable for the pool, whichever is less. Wells capable of producing more than top unit allowable may also receive transfer allowable, provided however, that no producing well in the project area which directly or diagonally offsets a well on another lease producing from the same common source of supply shall receive an allowable or produce in excess of two times top unit allowable for the pool. Each producing well shall be subject to the limiting gas-oil ratio (2,000 to 1) for the pool.

RULE 8. Each month the project operator shall, within three days after the normal unit allowable for Southeast New Mexico has been established, submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total project allowable. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

RULE 9. The Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for each well in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and may be produced from the wells in the Project in any proportion except that no well in the Project

which directly or diagonally offsets a well on another lease producing from the same common source of supply shall produce in excess of two times top unit allowable for the pool.

RULE 10. The conversion of producing wells to injection, the drilling of additional wells for injection, and expansion of the project area shall be accomplished only after approval of the same by the Secretary-Director of the Commission. To obtain such approval, the project operator shall file proper application with the Commission, which application, if it seeks authorization to convert additional wells to injection or to drill additional injection wells shall include the following:

(1) A plat showing the location of proposed injection well, all wells within the project area, and offset operators, locating wells which offset the project area.

(2) A schematic drawing of the proposed injection well which fully describes the casing, tubing, perforated interval, and depth showing that the injection of gas or water will be confined to the San Andres formation.

(3) A letter stating that all offset operators to the proposed injection well have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed injection well if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

Expansion of the project area may be approved by the Secretary-Director of the Commission administratively when good cause is shown therefor.

~~(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.~~

(5) The Secretary-Director of the Commission is hereby authorized to approve additional <sup>Amoco Production Company</sup> pressure maintenance projects and promulgate special rules therefor without notice and hearing on lands which are contiguous to existing <sup>Amoco Production Company or Union Texas</sup> pressure maintenance projects in the Cato-San Andres Pool. To obtain such approval, the applicant shall file proper application with the Commission, which application shall include the following:

(a) ~~(1)~~ A plat showing the proposed project area, all wells within the project area, offset operators, and wells which offset the proposed project area.

(b) ~~(2)~~ A schematic drawing of the proposed injection wells which fully describes the casing, tubing, perforated interval, and depth showing that the injection of gas or water will be confined to the San Andres formation.

(c) ~~(3)~~ A letter stating that all offset operators to the proposed project have been furnished a complete copy of the application and the date of notification.

The Secretary-Director may approve the proposed project and promulgate special rules therefor if, within 20 days after receiving the application, no objection to the proposal is received. The Secretary-Director may grant immediate approval, provided waivers of objection are received from all offset operators.

(6) ~~(4)~~ That Commission Orders Nos. 3867 and 3867-A are hereby superseded.

(7) ~~(5)~~ That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

CASE 4775: Appli. of CONTINENTAL  
FOR AMENDMENT OF SPECIAL POOL  
RULES GOVERNING BLINEBRY POOL.

Cont to Aug 23