

CASE 4527: Application of BIG "S"  
DREILING COMPANY FOR SALT WATER  
DISPOSAL, LEA COUNTY, N. MEX.

Case Number  
4527

Application

Transcripts

Small Exhibits

ETC.

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
April 28, 1971

EXAMINER HEARING

IN THE MATTER OF:

Application of Big "6" Drilling  
Company for salt water disposal,  
Lea County, New Mexico.

Case No. 4527

BEFORE: Elvis, A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

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MR. UTZ: Case 4527.

MR. HATCH: Case 4527, application of Big "6"  
Drilling Company for salt water disposal, Lea County, New  
Mexico.

MR. STEVENS: Mr. Examiner, Donald G. Stevens  
representing the Big "Six" Drilling Company.

We have one expert witness to be sworn.

(Witness sworn.)

MR. HINKLE: Mr. Examiner, Clarence Hinkle,  
Hinkle, Bondurant, Cox and Eaton, and I would like to enter  
an appearance for Atlantic Richfield.

MR. UTZ: Any other appearances?

(Whereupon, Applicant's  
Exhibits One through Six  
weremarked for identification.)

WILLIAM J. LEMAY

called as a witness, having been first duly sworn, was  
examined and testified as follows:

DIRECT EXAMINATION

BY MR. STEVENS:

Q Would you state your name, your residence and  
your occupation?

MR. HINKLE: Do you have an extra set of your  
exhibits?

A Certainly, Clarence.

MR. UTZ: You may proceed.



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1 A Yes, William J. LeMay, a consulting geologist  
2 in Santa Fe, New Mexico.  
3 Q (By Mr. Stevens) Have you testified before  
4 the New Mexico Oil Conservation Commission, and have your  
5 qualifications been accepted by said Commission?  
6 A Yes, I have.  
7 MR. STEVENS: Mr. Examiner, are the witness'  
8 qualifications acceptable?  
9 MR. UTZ: I assume he's made a study of this  
10 situation. If he has, he's qualified.  
11 Q (By Mr. Stevens) Mr. LeMay, could you tell  
12 us what is proposed by the applicant, Big "6" Drilling  
13 Company, in this application?  
14 A Yes, Big "6" Drilling Company proposes to  
15 convert their Ora Jackson Number 1-A Well in the Scharb-Bone  
16 Springs field to a salt water disposal well to dispose of  
17 the produced salt water from the Bone Springs formation into  
18 the Bone Springs formation, and that well is located in  
19 Unit M, Section 5, Township 19 South, Range 35 East, circled  
20 in red on Exhibit Number One.  
21 Q Could you tell us what produced water you plan to  
22 dispose into the subject well?  
23 A Yes, Big "6" Drilling Company proposes to inject  
24 approximately a hundred twenty-five to a hundred thirty  
25 barrels of water per day into this proposed disposal well.

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1 This water is being produced currently by their other wells  
2 in the field.

3 Q You have mentioned Exhibit Number One. Could  
4 you -- what has been marked as Exhibit Number One. Could  
5 you identify and explain it further?

6 A Yes, Exhibit Number One is a location land  
7 ownership map in the Scharb-Bone Springs field area showing  
8 the wells in the vicinity of the proposed injection well  
9 and the acreage ownership involved in a radius of over two  
10 miles from the proposed injection well. The proposed injection  
11 well, as mentioned previously, is circled in red on Exhibit  
12 Number One.

13 Q Referring to what has been marked as Applicant's  
14 Exhibit Number Two, would you explain the situation to the  
15 Commission?

16 A Exhibit Number Two is a structure map of the Scharb-  
17 Bone Springs field. Its been contoured on a fifty-foot  
18 contour interval. The datum is the top of the Scharb limestone  
19 which is the pay in the field.

20 Some pertinent facts concerning the accumulation  
21 in this field are as follows: The wells that were drilled  
22 ten thousand feet or below which would encounter the Scharb  
23 pay are circled. The wells producing or which have produced  
24 from the Scharb field are colored in light blue.

25 You will note one well in Unit Number A, Section 6,

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1 19, 35, was completed from a carbonate approximately five  
 2 hundred fifty feet above the Scharb pay. This is the only  
 3 well in this general area which is a producer of oil from  
 4 below ten thousand feet, or approximately ten thousand, I  
 5 think, the top of the pay was on that one, but it's not the  
 6 Scharb pay.

7 Some interesting things to note are the two dry  
 8 holes in Section Five. There's actually three of them, they  
 9 are circled, but they -- they are not productive from the  
 10 pay.

11 In the case of the well in Unit C, Section 5,  
 12 this had a remnant of limestone which was tight, had no  
 13 porosity at all. As was the case in the other two dry  
 14 holes in the south half of Section 5, there was no correlative  
 15 point to pick a datum, or in other words, there was no Scharb  
 16 limestone developed, the entire section was shale.

17 So basically what we have here is a porosity  
 18 envelope, even though there is a nose contoured in the  
 19 area. The production is stratigraphically enclosed, and  
 20 there is other evidence as to the stratigraphic nature of the  
 21 accumulation which I will have to bring up later. It does show  
 22 that the proposed injection well is slightly higher than the  
 23 average, but it is not right on the top of the nose, and it  
 24 does have a nice porous section of Scharb pay developed.

25 Q Is this Scharb pay a carbonate, a sandstone?

1 A No, it's a limestone.

2 Q A limestone?

3 A Coarse limestone.

4 Q Referring to what has been marked as Exhibit  
5 Number Three, could you explain the situation?

6 A Exhibit Number Three is a production datum map of  
7 the scharb field. The datums that are indicated over the  
8 wells are the barrels of oil produced from these individual  
9 wells during the month of May as were reported by the  
10 Engineering Committee in Hobbs. Many of the operators have  
11 not reported accurate water, going into that in the next  
12 exhibit, but the main purpose of the exhibit is to show the  
13 marginal nature generally of the field. There are a few  
14 wells producing over two thousand barrels. In general, the  
15 average well is down quite a bit and the field approaching a  
16 marginal status.

17 The injection well again is circled in red. During  
18 the month of February, it produced 863 barrels of oil.

19 Exhibit Three and Exhibit Four, I'd like to go  
20 into these together, if I may.

21 Q May I ask you one question --

22 A Yes.

23 Q -- here?

24 A Yes.

25 Q What's a rough correlation between the amount of

1 oil which will be injected into this well and the amount  
2 of oil and water being withdrawn by wells in the field as  
3 of February of 1971?

4 A I don't think I understand the question.

5 Q Well, my question is, how much water is being -- will  
6 be put in this well if this application is approved in  
7 comparison with the amount of oil and water that is being  
8 produced by each of the rest of the wells in the field? You  
9 testified that some one hundred twenty-five to one hundred  
10 thirty barrels of water will be injected --

11 A Yes, into the injection well, right.

12 Q Approximately how much oil is being withdrawn  
13 from other wells in the field, on an average basis, a very  
14 rough approximation?

15 A Less than -- an average of less than a thousand  
16 barrels per month, but the wells vary as shown -- as on the  
17 enclosed exhibit. Pressure has declined in the field and  
18 its reached a margin of -- as I stated, most wells are  
19 pumping. The withdrawal of fluid from the Scharb field  
20 is -- there's been no pressure maintenance or anything  
21 instituted in the Scharb field, and therefore the re-injection  
22 of fluid will be far less than the amount of fluid that's  
23 being withdrawn from the field.

24 Q And it will be far less than the amount of fluid  
25 that's being produced in the average well, is that true?

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1 A Well, on a per well basis, we are talking about  
 2 injecting a hundred and thirty barrels per day, or say  
 3 thirty-five hundred barrels per month, and there -- and the  
 4 average -- there's no well in the field that's producing  
 5 thirty-five hundred barrels per month, so on a per well  
 6 basis, we would be injecting slightly probably more fluid  
 7 than would be produced by some of the wells.

8 Q Would that be true as -- when you include the  
 9 water that may be being produced?

10 A No, that probably isn't true. There's no way  
 11 that you can gauge the water. As I mentioned previously,  
 12 the water a lot of times is not reported accurately.

13 Q Would you explain the significance of what has  
 14 been marked Exhibits Number Four and Five?

15 A Well, Exhibit Number Four, I would like to talk  
 16 about it in conjunction with Exhibit Number Three.

17 Q Oh, excuse me.

18 A Exhibit Number Four is a tabulation for the last  
 19 thirteen months of the oil being produced by the proposed  
 20 injection well, the Scharb -- in the Scharb field, and also  
 21 the water as -- the water data that is supplied to me by  
 22 Big "6" which was taken from records of actual water trucked  
 23 from the tank battery on the Ora Jackson A tank battery.  
 24 This tank battery is hooked up to the proposed injection  
 25 well at the southeast offset in Section 8, which is the



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1 Ora Jackson Number TWO.

2 It is not making any water, it's a structurally  
 3 lower well than the proposed injection well, but because  
 4 it has not made any water, the operating costs are much  
 5 less than in the proposed injection well, which has, as  
 6 you will notice, averaged something between two and three  
 7 thousand barrels of oil per month, even though the  
 8 production of oil has been higher, and its dropped recently,  
 9 total fluid has dropped, but Big "6" feels that they can  
 10 continue to operate the well in Section 8 making a small  
 11 margin of profit, where the well -- the proposed injection  
 12 well in Section 5, because of the high water, the high cost  
 13 of trucking water out of there, it has become uneconomical.

14 The relative costs of trucking water averages  
 15 for Bix "6" twenty-five cents per barrel. That's been an  
 16 average over the last thirteen months.

17 This Exhibit Number Four shows that -- the  
 18 relationship between the two wells, the oil production and  
 19 the water production. The -- as I mentioned, the well in  
 20 Unit C of Section 8 operated by Bix "6" has produced less  
 21 than a hundred barrels of water per month, whereas the other  
 22 well tied to the same tank battery has produced, averaged  
 23 over two thousand barrels of water per month.

24 Q Do you have any information as to the amount  
 25 of water being produced by the rest of the wells, principally



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1 in the west side of the field? Do they report any water?

2 A Most of the wells did not report any water.

3 As I mentioned before, there is no accurate gauge of the  
 4 water, of the -- what's reported in the Engineering  
 5 Committee books, because a lot of operators just don't keep  
 6 accurate accounts of how much water is produced. It is  
 7 trucked, and I am sure it's available at trucking company  
 8 records, but not in the books.

9 Q Referring to what has been marked as Exhibit  
 10 Number Five, would you explain that to the Commission?

11 A Exhibit Number Five is a diagramatic sketch of  
 12 the proposed water injection well, the Ora Jackson Number 1-A  
 13 in Section 5 located 660 from the south and 660 from the  
 14 west of that section.

15 Going over it briefly, thirteen and three-eighths  
 16 casing was set at 398 feet with 450 sacks, and an intermediate  
 17 string of casing, eight and five-eighths dimension was set  
 18 at 3989 feet, with three hundred feet of seven and seven-  
 19 eighths inch casing when this hole was drilled down, and a  
 20 production casing of four and a half inch diameter was  
 21 cemented at a TD of 10,165 feet with a hundred and fifty  
 22 sacks.

23 As shown on Exhibit Number Six and as calculated,  
 24 the top of the cement on the production string is at ninety-  
 25 five hundred feet.

1 The applicant proposes to inject produced  
2 water into the perforations from 10,062 to 10,119 feet  
3 opposite the Scharb pay through two and three-eighths  
4 inch plastic lined tubing, and set a Baker Model R Packer  
5 at nine thousand feet.

6 Q This water that is to be injected is native  
7 water?

8 A That's correct.

9 Q From the formation it's to be injected into?

10 A It's water produced in the Scharb field.

11 Q Referring to what has been marked as Exhibit  
12 Number Six, would you explain it to the Commission?

13 A Exhibit Number Six is a -- are two logs of the  
14 proposed injection well, radio-active logs showing various  
15 tops encountered while drilling the well, the proposed  
16 injection zone, tops of cement, et cetera. It's really a  
17 repeat of what's shown in the diagramatic sketch, but it  
18 also shows the log characteristics of the hole.

19 Q Mr. LeMay, in your opinion as a geologist and  
20 expert witness, will the injection of this native Bone  
21 Springs water into the Bone Springs formation in the Scharb  
22 field protect correlative rights and -- or will it result in  
23 waste?

24 A No, I believe that the status of the present pool  
25 is very similar to Permian Pennsylvanian accumulations in

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1 the Bough C or other thin carbonate zones whereby you are  
2 dealing with expensive operating costs. You are depleting  
3 the pressure rapidly, and the injection of fluid into the  
4 formation will help maintain bottomhole pressure and thereby  
5 ultimately help all the operators in the field recover  
6 more oil than if none of this pressure was even maintained  
7 to any extent.

8 I realize a hundred and thirty barrels a day isn't  
9 a pressure maintenance program in the salt water disposal  
10 program, but I think its net effect will be positive in  
11 allowing the other operators to -- and Big "6" in their  
12 surrounding locations, they own all the operating rights  
13 on all offset locations except Atlantic's location to the  
14 northeast, and I think they look at it in terms of helping  
15 the reservoir generally and not being detrimental to the  
16 reservoir.

17 Q Were Exhibits One through Six prepared by you  
18 or under your direction?

19 A Yes, they were.

20 MR. STEVENS: At this time, Mr. Examiner, we  
21 would like to move the introduction of Exhibits One through  
22 Six.

23 MR. UTZ: Without objection, Exhibits One through  
24 Six will be entered into the record of this case.  
25

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(Whereupon, Applicant's Exhibits 1 through 6 were received in evidence.)

MR. STEVENS: And we have no further questions.

MR. UTZ: Do you have questions?

MR. HINKLE: No questions. We will put on one witness and offer two exhibits in evidence.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. LeMay, Big "6" owns a well in Unit C, Number 2-A --

A That's correct.

Q -- in Section 8?

A Yes.

Q Is that well down-structure from the proposed injection well?

A Yes, it is.

Q And immediately south of the proposed injection well, you have Standard of Texas located?

A Yes, that well was purchased by Charlie Reed. It has had no report, I think it's about to be temporarily abandoned. That would be in Unit E of Section 8, and Big "6" owns the well, the diagonal southwest offset in Section 7, that's their Hooper B. They also own the northwest offset in Section 6, that's that Dalmont well, and Atlantic owns the wells in Unit J -- I think it's K, Unit K of Section 5.

1 Q And Big "6" owns the operating rights in the  
2 northwest quarter of 5?

3 A Yes.

4 Q The well in Unit E is -- that's a Scharb well?

5 A Yes, in Section 5, yes sir, that's a Scharb well.

6 Q Are there any wells immediately east of -- well,  
7 let's say in the southeast quarter of Section 5?

8 A Well, there's the southeast quarter -- no, there  
9 are two dry holes in the southeast quarter of Section 5.

10 Q Okay.

11 A That I mentioned did not plan development. It was  
12 just a shale section in the Scharb pay equivalent.

13 Q You don't feel that the injection of water into  
14 the -- in the same formation will harm your Number Two Well  
15 in Unit C of Section 8?

16 A No, it's a pretty poor well to start with, and  
17 I think if anything it'll tend to help the bottomhole  
18 pressure. The well have never been very good, as you can  
19 see on that Exhibit Number Four. It's producing two to  
20 six hundred barrels of oil a month, but its been a real  
21 cheap well to operate, and --

22 MR. STEVENS: Excuse me, Mr. LeMay. I think the  
23 Examiner was speaking of the well on Section 5, were you not,  
24 is that correct or not?

25 MR. UTZ: I am speaking of the well on Section 8.

1 MR. STEVENS: I'm sorry.

2 MR. UTZ: Unit C.

3 A Unit C, that's the Ora Jackson A Number Two. It  
4 goes in the same tank battery as the proposed injection  
5 well, and it's a pretty poor well, but it's cheap to  
6 operate, and that's the reason why they feel it's marginal,  
7 but not at the plugging stage yet, like the other one was  
8 because of the excess water, especially trucking it at  
9 twenty-five cents a barrel. It has become uneconomical.

10 Q (By Mr. Utz) And that's the reason you say, even  
11 at 863 barrels per month versus 189 barrels per month for  
12 the Number Two well, for the Number Two Well, it makes  
13 less than a hundred barrels per month, the Number One Well  
14 makes fourteen hundred, it's because of this increased  
15 water production, you say that it's expensive to operate?

16 A This is correct, but I checked this with them,  
17 because I suggested the down-dip well in Section 8 for  
18 our water injection well, and they said their field  
19 personnel did not want that, that it was cheaper to operate.  
20 Maybe there are other factors involved there, but it's much  
21 cheaper to operate than the one they propose as a salt water  
22 injection well, and the fact that you will notice that the  
23 production has dropped, and I imagine March, although I don't  
24 have the figures, shows a further drop from February. It  
25 came off -- it's been dropping steadily, the total fluid

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1 production in the well, and it's kind of like the Bough O,  
2 it's on its last legs and on a down-hill run.

3 MR. UTZ: Any other questions?

4 MR. HINKLE: Let me ask one of Mr. LeMay.

5 A Yes, sir.

6 CROSS EXAMINATION

7 BY MR. HINKLE:

8 Q Did your proposed injection well produce every  
9 day in February or just part of February?

10 A I think it produced every day, Mr. Hinkle, but  
11 I can't swear to that. They didn't tell me that --

12 Q There's quite a difference, 1263 in January, and  
13 you dropped to 863 in February.

14 A Yes. The trend has been set in October, November,  
15 December, then it went down from December to January, so -- and  
16 it was reported to me that the total fluid in the well has  
17 been going down, so I think over a period of time, that  
18 that curb will -- would be correct.

19 MR. HINKLE: All right, that's all.

20 MR. UTZ: Are there any other questions?

21 The witness may be excused.

22 (Witness excused.)

23 MR. HINKLE: We have one witness I'd like to have  
24 sworn, please.

25 (Witness sworn.)



(Whereupon, Atlantic Richfield's Exhibits One and Two were marked for identification.)

JERRY TWEED

called as a witness, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. HINKLE:

Q State your name, your residence and by whom you are employed?

A Jerry Tweed, I live in Midland, Texas, and employed by Atlantic Richfield.

Q And what is your position?

A Petroleum engineer.

Q Have you previously testified before the Commission?

A Yes, I have.

Q And you have qualified as a petroleum engineer?

A Yes.

Q And your qualifications as such are a matter of record with the Commission?

A Yes, they are.

Q Are you familiar with the area which is involved in this case?

A Yes, I am.

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1 Q Have you made a study of the well --

2 A Yes.

3 Q -- and it's production history?

4 A Yes.

5 Q Have you prepared or has there been prepared  
6 under your direction exhibits for introduction in this  
7 case?

8 A Yes, they have.

9 Q I refer to Exhibit Number One, and explain  
10 that to the Commission?

11 A Exhibit Number One is a structure map on the  
12 top of the Scharb-Bone Springs pay. The wells that are  
13 producing are shown -- in the Scharb-Bone Springs are  
14 shown on the map, and our cross section locations, which  
15 is Exhibit Number Two, is showing -- the well on the left  
16 on the cross section is Atlantic Richfield Company's  
17 Hondo E State Number One, and then Big "6 1/2" Drilling  
18 Company's Ora Jackson Number One, and the well --

19 Q That's the one they want to convert to an injection  
20 well?

21 A That's the one they want to convert to an injection  
22 well, and the well to the northeast is Atlantic Richfield  
23 Company's Ora Jackson Number One.

24 Q What is the present status of the production  
25 from the two wells you have mentioned owned by Atlantic

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1 Richfield?

2 A They are both currently producing. In February,  
3 our Hondo B State Number One made 5,436 barrels of oil,  
4 1950 MCF of gas and 741 barrels of water.

5 MR. UTZ: Would you give me that again, please?

6 A 5,436 barrels of oil, 1950 MCF of gas, and 741  
7 barrels of water. Our Ora Jackson Number One, which is the  
8 northeast well, made 2,384 barrels of oil, 1,860 MCF of  
9 gas, and no water. The Big "6's" well, as has been  
10 testified, was reported to make 863 barrels of oil during  
11 the month of February. There was no gas or water reported  
12 in the sub-committee books for that well for February.

13 Q (By Mr. Hinkle) Do you have any further remarks  
14 with respect to Exhibit Number One?

15 A No, I don't.

16 Q Refer to Exhibit Number Two, and explain it to the  
17 Examiner?

18 A Exhibit Number Two is a cross section with three  
19 or four mentioned wells. The cross section is hung on a  
20 datum point of minus 5900, which is the top dashed line  
21 shown here. The producing pay is in the Scharb-Bone  
22 Springs. The perforations in our Hondo B State Number One  
23 and Big "6's" Ora Jackson A Number One, which they wish to  
24 convert, are shown, and then our Ora Jackson Number One.

25 As can be seen from the cross section, that the

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1 pay here in the Scharb is quite continuous over this  
2 interval.

3 Q What is the character of the producing formation,  
4 the Scharb-Bone Springs formation?

5 A It's a limestone, and it has produced primarily  
6 by solution gas drive.

7 Q There's no evidence of water drive in this  
8 pool?

9 A No, there's been no evidence of an effective water  
10 drive.

11 Q What is Atlantic Richfield's main objection to  
12 converting the well that's been proposed to be converted  
13 to an injection well?

14 A Our contention is that the conversion of this  
15 well here to inject water into the pay section will result  
16 in an inefficient secondary recovery mechanism in this  
17 general area, and that additional oil, secondary oil could  
18 be better recovered from the pool if it were put on an full  
19 scale injection project, and if this is done in the future,  
20 the conversion of this well now would reduce the amount of  
21 oil recovery in the secondary unit.

22 Q Do you think that this pool is a likely candidate  
23 for a secondary recovery operation?

24 A It has not been studied, but it's a likely  
25 candidate for secondary recovery.

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1 Q Now, if you were going to a secondary recovery  
2 operation, how would you locate your injection wells to get  
3 the best sweep possible?

4 A The -- in a pool such as this, there would be  
5 two likely patterns. One would be a conventional five-  
6 spot pattern, the other would be a perimeter flood, and I  
7 would suggest that the five-spot pattern be used in the secondary  
8 recovery in this pool.

9 Q Now, I understand from your testimony that if  
10 water is injected into this proposed well at the present  
11 time, it will tend to channel towards Atlantic's two  
12 producing wells and other wells?

13 A Yes, it will give a real limited sweep between  
14 our producing wells and the injection well, which has been  
15 shown before in the literature by flood test. Our -- also,  
16 I might point out that both of our wells are currently  
17 making a substantial amount of primary oil. A secondary  
18 sweep from this direction would reduce somewhat the amount  
19 of primary recovery that we would recover from these  
20 wells.

21 Q And do you think that later, if you did go to a  
22 secondary recovery operation, that this would be detrimental  
23 to this?

24 A Yes, it would.

25 Q In other words, it may cause waste in the

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1 recovery of --

2 A Of secondary reserves.

3 Q -- secondary oil?

4 A Yes.

5 Q Is there anything further that you would like  
6 to testify to?

7 A No.

8 MR. HINKLE: That's all, Mr. Examiner.

9 CROSS EXAMINATION

10 BY MR. UTZ:

11 Q Would you give me that production data on the  
12 1-B again?

13 A That's the Hondo State --

14 Q Right.

15 A -- B, that's 5,436 barrels of oil.

16 Q That's the one I got.

17 A Okay, would you like the other one?

18 Q Yes.

19 A The Ora Jackson Number One?

20 Q Right.

21 A Is 2,384 barrels of oil, 1,860 MCF of gas, and  
22 no water.

23 Q Do you have any explanation for the fact that  
24 the Big "6" well and the well southeast-southwest of the  
25 southeast quarter of Section 5 is making more water than

1 either of your two wells on your cross section?

2 A No, sir. I didn't -- until the testimony was  
3 given, I wasn't aware that this well was making water.

4 However, I would like to point out from the Big "6's"  
5 testimony, that their oil and water production both is  
6 declining in this well, which I suppose would indicate an  
7 active water drive.

8 Q It doesn't indicate the well is about to go,  
9 though, does it?

10 A Well, I can appreciate they do have an economic  
11 problem on hauling water from that well, yes sir.

12 MR. UTZ: Are there other questions of the  
13 witness?

14 MR. STEVENS: Yes, sir.

15 MR. UTZ: You may proceed.

16 CROSS EXAMINATION

17 BY MR. STEVENS:

18 Q You have stated that this would be a likely  
19 candidate for secondary recovery. Has Atlantic actually  
20 initiated any study --

21 A No, sir.

22 Q Could you just give an estimate of the usual  
23 time it takes to initiate a study and get it unitized for  
24 secondary recovery?

25 A Normally, two years' time.



1 Q In your opinion, based on your knowledge of  
2 these wells, do you think these wells will still be  
3 here and not plugged out by that period?

4 A Our two wells which I have testified to will  
5 be. They are of that -- they are producing good quantities  
6 of oil now, and will be -- some of the wells are marginal  
7 in the area, and the actual disposition of them two years  
8 from now, I would prefer not to say. They may or may  
9 not.

10 Q Presuming that a number are, would you consider  
11 that the field would still have secondary recovery, under-  
12 taking -- presuming, like I say, that a number of them --

13 A You would have to initiate your study first.  
14 And a feasibility study is to determine the economics.  
15 Based on that, the decision would then be made, if it's  
16 economical, and I would certainly assume that it would be  
17 undertaken.

18 Q Is this similar, in your experience, to the  
19 usual pilot secondary recovery system, wherein a secondary  
20 recovery system is initiated on a very small scale, and if  
21 it shows an effect, a good effect upon the reservoir, then  
22 the pilot project is expanded?

23 A This has been done. The advisability of a  
24 pilot project using one well, one injection well is  
25 ~~certainly quite questionable, and has been seriously~~

1 questioned by other experts other than myself. I was  
2 attending a course in Midland just last week with  
3 Doctor Ben Collins, and he said that in many cases it is  
4 difficult to even ascertain when the fluid front gets to  
5 the offset wells in a one-well pilot injection well pilot  
6 project.

7 Q But it is a known practice, is that true?

8 A Yes, sir. It has been done, I said that.

9 Q And in your opinion, do they usually result  
10 in a lessened amount of oil by the initiation of such pilot  
11 project?

12 A In the pilot area, they do. The reason for  
13 the pilot, for any pilot is to determine whether or  
14 not it is feasible to flood it. If it is, they then  
15 go to field-wide flooding in the other areas, and they  
16 reduce the amount of fluid in the pilot area of they have  
17 a reduced amount of recovery.

18 Q What amount of total fluid did you testify was  
19 recovered from -- during February from Atlantic's  
20 well on Unit O of Section 6?

21 A That would be our Hondo B State Number One?

22 Q Yes.

23 A 5,436 barrels of oil, 1950 MCF of gas, and 741  
24 barrels of water.

25 Q That then would be considerably more than the

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1 amount that's proposed to be injected, is that  
 2 correct?

3 A Yes, sir.

4 Q And you have testified that the Atlantic  
 5 well in Unit K of Section 5 produces no water --

6 A That's correct.

7 Q -- is that correct?

8 A Yes.

9 Q In your opinion, and your knowledge of Atlantic's  
 10 operation, does Atlantic have an interest in injection  
 11 wells in the center of other fields in New Mexico or  
 12 West Texas wherein one well in the middle of the field  
 13 is used as a salt water injection well, and surrounding  
 14 wells are still producing, such as in the larger fields  
 15 or the smaller fields, both areas?

16 A I could not answer, not being familiar with  
 17 that. One doesn't come to mind in the center of a field in  
 18 New Mexico.

19 Q All right.

20 A But it doesn't mean we couldn't have one.

21 MR. STEVENS: All right, no further questions.

22 MR. HINKLE: I might ask one more question.

23 MR. UTZ: All right, sir.  
 24  
 25

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REDIRECT EXAMINATION

BY MR. HINKLE:

Q What is Atlantic Richfield doing with its produced water?

A We have a disposal well about two miles away from here. I assume we are hauling our water to it.

MR. HINKLE: That's all.

MR. UTZ: What's Big "6" doing with their water?

MR. LEMAY: Trucking it at twenty-five cents a barrel. I don't know where it's going.

MR. UTZ: You don't know where it's going?

MR. LEMAY: No.

MR. UTZ: Mr. Tweed, at the rate of a hundred and thirty barrels a day, I believe was the figure, wasn't it? Yeah, a hundred thirty, how long do you anticipate it would take that volume of water to have any effect on either of your wells?

A This would just be a guess, that -- oh, there's a -- if this is a regular formation, there's a possibility that it could channel. I don't know whether it would or not. I rather suspect it wouldn't. If we didn't get a channel through the pay itself, then I would suspect it would be something in the neighborhood of three years.

MR. UTZ: By that time, your wells would probably be

1 over the hill, wouldn't they?

2 A The decline is not great on them. I have the  
3 decline curves on these wells, if --

4 Q (By Mr. Hinkle) Would you like to produce  
5 it?

6 A Yes.

7 Q They are two separate exhibits?

8 A Yes, sir.

9 Q One on each well?

10 A There's one --

11 MR. HINKLE: This would be Number Three --

(Whereupon, Atlantic Richfield's  
Exhibits Three and Four were marked  
for identification.)

13 Q (By Mr. Hinkle) Have you got another set here  
14 for them?

15 A Well --

16 Q That's the only ones you've got?

17 A No, I've got some more.

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

19 Q (By Mr. Hinkle) Refer to Exhibits Three and  
20 Four, and explain those to the Examiner?

21 A Let's see, is Exhibit Three Hondo B State?

22 Q Yes.

23 A It's a plat of the oil production from the  
24 well since 1964. As can be seen, we haven't suffered a  
25

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1 precipitous decline in this well to date, and it would  
2 be reasonable to assume that it would be producing another  
3 five or six years.

4 And Exhibit Four is Mr. Ora Jackson Number One.  
5 Based on the decline rate that was established back in  
6 the period of 1967 to 1969, I would estimate that we  
7 have another four years of life left on this well.

8 MR. HINKLE: That's all.

9 REXCROSS EXAMINATION

10 BY MR. UTZ:

11 Q Mr. Tweed, do you have any opinion as to what  
12 the secondary recovery pattern would be, or any  
13 suggestions?

14 A I would --

15 Q The point in mind being we might just be on  
16 pattern, in your opinion?

17 A In all likelihood, I think we'd probably  
18 initiate a perimeter flood, periferal flood, in which case  
19 it wouldn't be.

20 MR. UTZ: Are there other questions?

21 MR. STEVENS: Yes.

22 MR. UTZ: Mr. Stevens?

23 REXCROSS EXAMINATION

24 BY MR. STEVENS:

25 Q In your opinion, on this well in your Section 6,



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1 is the fact that some water is being produced by that  
2 well and it has a high production rate, could this  
3 be -- could the fact that water is being produced be a  
4 benefit to the well as opposed to your other well in  
5 Section 5 where no water is being produced and the production  
6 is much lower?

7 A The only benefit -- water doesn't really actually  
8 benefit you by being produced. If there's a water drive,  
9 it then would -- you would be receiving benefits from it.  
10 I think water drive in this area would be a periferal  
11 flood. I am not -- it is my opinion that we do not have  
12 an active water drive in this reservoir.

13 Q This field has been compared with the Bough C  
14 production. Is it true -- you stated your wells are going  
15 to produce perhaps for five or six years. Is it true that  
16 there is a possibility that as time goes by, a well does  
17 start producing less precipitously in the amount of  
18 production, that it -- it will make -- in the amount of  
19 production it will make once it starts dropping rather  
20 than being extended over a long period of time, such as  
21 five or six years --

22 A Yes, this has occurred in the Bough C.

23 Q Has it occurred in this field?

24 A I can't say for all the wells. It hasn't, obviously,  
25 in these two wells that we are interested in.



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1 Q You stated that you would prefer a perimeter  
2 flood. Referring to the Applicant's Exhibit Number  
3 Three, the wells on the perimeter, the down-dip side, that  
4 is, of the field --

5 A Yes, sir.

6 Q -- all apparently are making very little oil, and  
7 would presumably be the first candidate for plugging. In  
8 your opinion, would they be there and available for perimeter  
9 flood by the time you propose that a secondary recovery  
10 unit can be organized?

11 A There's a possibility that they all would not be  
12 there.

13 Q That's -- if they were not available, a five-spot  
14 or pattern might be a better method, is that correct?

15 A It could be. We'd have to consider whether -- it  
16 would have to be considered whether you could step in another  
17 row and still have a perimeter, realizing that some oil  
18 would be driven out here, some oil would be driven back  
19 for the -- from these wells, regardless of what pattern  
20 you do use. You could either side-step and have a perimeter  
21 flood or on a five-spot. I wouldn't rule out a five-  
22 spot.

23 Q If you did have a five-spot, though, the present  
24 location of the Big "6" well proposed to be converted is an  
25 acceptable location, is it not, not necessarily the optimum,

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1 but it's acceptable, is that true?

2 A That's true. You would have a fifty-fifty  
3 chance of it being fit into the pattern.

4 Q You could fit the pattern around it, is that  
5 correct?

6 A I wouldn't state that at this time. I'd have to  
7 study it further to know for sure whether you could without  
8 incurring some loss.

9 MR. STEVENS: No further questions.

10 MR. UTZ: As a matter of fact, that would be in  
11 the realm of accident if it happened that way, wouldn't  
12 it?

13 A Well --

14 MR. STEVENS: I withdraw that last question.

15 MR. UTZ: Are there other questions?

16 MR. HINKLE: No.

17 MR. UTZ: The witness may be excused.

18 (Witness excused.)

19 MR. UTZ: The case will be taken under advise-  
20 ment.

21 MR. STEVENS: Could I make one statement, Mr. Examiner?

22 MR. UTZ: Statements? I'm sorry.

23 MR. STEVENS: I would like to ask the Commission  
24 to take administrative notice of the many inside locations  
25 which it has approved for conversion to injection of salt

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1 salt water.

2 There are many in the old Jalmat platform in  
3 the Artesia-Lovington area. There are three recent cases  
4 that are particularly pertinent. Case 4153 in the Bronco  
5 Wolfcamp field had an injection well on the Wolfcamp formation  
6 converted to salt water. There was a Wolfcamp well one-half  
7 mile north, northeast, and another Wolfcamp well three-quarters  
8 miles southwest.

9 MR. UTZ: What was the case number?

10 MR. STEVENS: Case Number 4153, which is similar  
11 to this.

12 A closer case, more similar, is Case Number 4389,  
13 the North Tulk field, where Tulk State requested the  
14 injection -- conversion to injection status of a well  
15 which was bounded one location northeast and south with  
16 producers producing out of the same formation. The Commission  
17 granted conversion of the well to salt water injection.

18 A slightly different case was the BTA case in the  
19 ~~mid~~ of the Stanolind Field, Number 4469, wherein the  
20 pressure maintenance and salt water injection was granted  
21 in the same case. It was something of a pilot project, but  
22 the net result was that a lot of produced salt water was  
23 being re-injected into the same formation.

24 MR. UTZ: Was there any controversy on any of these  
25 three cases?

1 MR. STEVENS: There was controversy on the  
2 North Tulk case.

3 MR. UTZ: Which one was that?

4 MR. STEVENS: That's 4389. There was none on the  
5 Bronco Wolfcamp, and I am not sure about the BTA case, I  
6 don't remember, but I don't think there was.

7 MR. LEMAY: There was none.

8 MR. HINKLE: Mr. Examiner, I am not familiar  
9 with those cases he's referred to, but I think that every  
10 pool has to be considered as a separate entity, you might  
11 say, and these matters have to be decided on the facts and  
12 circumstances of each individual case.

13 We have had before, and I think Atlantic Richfield  
14 has requested permission and had approved permission to  
15 inject salt water into the same producing formation, but  
16 it was under entirely different circumstances than this  
17 pool, which is not depleted.

18 Most of the other cases that have been approved  
19 have been cases where the pools have depleted and the wells  
20 are on a stripper stage and so forth, but here, of course,  
21 Atlantic Richfield has wells that aren't in the stripper  
22 stage of production, and as the testimony shows, will still  
23 remain on production, producing primarily oil for four or  
24 five years, and it is not time yet to go ahead and inaugurate  
25 a water flood project in a pool which is a good candidate,

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1 because of being a gas solution drive pool, for secondary  
2 recovery operation.

3 That's all I have.

4 MR. UTZ: I'd like to recall Mr. LeMay, you  
5 may sit right where you are, for one more question.

6 Would Big "6" have other alternatives as an  
7 injection well in this pool?

8 MR. LeMAY: Mr. Examiner, we have had the  
9 problem of salt water disposal from Big "6" going over  
10 a period of two years. At one time, through Mrs. Holder,  
11 I deal very limited with Donna Holder in Hobbs, who handles  
12 their cases, but at one time she asked me to handle one  
13 whereby they proposed to inject salt water between the  
14 8 and 5 and the top, to cement in the production string,  
15 which would include the Yabo-Yeso. There's been a few  
16 cases whereby this combination was granted and the water  
17 has been treated.

18 They abandoned -- they dismissed that case, or the  
19 Commission dismissed it on their request.

20 The salt water disposal in the field has been  
21 a problem, and a big economic problem with them over many  
22 years.

23 I have had similar experience with Mr. Reed,  
24 and Charlie Reed and Don Stevens in Roswell with salt water  
25 disposal. They have proposed many things to be done, but

1 none of them have ever got to the economic point where  
2 they felt they could do it economically because their  
3 production, not like Atlantic's, is very poor.

4 I do know that some of the wells that weren't  
5 candidates before, like the Reed and Stevens well, when  
6 they drop, they do drop, they go fast. I don't have exhibits  
7 to support this, but I think the decline curves will show  
8 that these wells will reach their marginal limits very  
9 quickly and they are plugging them out or they will be plugging  
10 them out.

11 So in answer to your question, I don't have an  
12 acceptable alternative. I do know its been kicked around  
13 a lot by a lot of operators, so Big "6" is just saying,  
14 well, this well isn't going to be economical to us any  
15 more, it would be a cheap and hopefully beneficial way  
16 to get rid of the water and maybe keep some of the pressure  
17 in the field, and that's why it was proposed.

18 MR. UTZ: Well, like the Reed and Stevens well  
19 to the south --

20 A Yeah, they have been talking, Reed and Stevens,  
21 over a period of time. I made some alternate suggestions  
22 that were vetoed because of economic reasons by Big "6" and  
23 it's their money, so I abide by their wishes.

24 MR. UTZ: I am sure you do.

25 MR. LEMAY: I have no veto over their decisions,

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1 I don't want to. It's a problem in the field.

2 MR. UTZ: I'd recall Mr. Tweed for another question  
3 also.

4 Would another location in the field be acceptable  
5 to Atlantic?

6 MR. TWEED: I have not talked to our management  
7 about it, but I'd -- I don't think that an end location  
8 would be -- would be un-acceptable to us. I think that we  
9 would accept an end location. As I said, I do not have  
10 our management approval, but I would anticipate --

11 MR. UTZ: Do you have a suggestion for an alternate  
12 location?

13 MR. TWEED: Any -- either one of the two wells  
14 in Section 8 or the southeastern most well in Section 7,  
15 and specifically the -- be what, "E" of Section 8.  
16 That's "E," or the southerlymost well down here.

17 MR. UTZ: Are there other questions of this  
18 witness?

19 You may be excused again.

20 MR. TWEED: Thank you.

21 (Witness excused.)

22 MR. STEVENS: Mr. Examiner, could I ask one more  
23 question of Mr. LeMay?

24 MR. UTZ: Yeah, we'll let you re-open the case  
25 and recall Mr. LeMay for one more question.



1 MR. STEVENS: Mr. LeMay, in your opinion, based  
2 on your knowledge of Big "6's" operations, if this application  
3 is not granted, do you think Big "6" Drilling Company would  
4 plug the well, the subject well, making it unavailable for  
5 secondary recovery in the future?

6 MR. LeMAY: It's a short matter of time before  
7 they would, because extrapolating from the curve on the  
8 production figure on that well, when it gets down below  
9 eight hundred barrels a month with the high water, in my  
10 opinion it would be non-commercial. It's close to the  
11 non-commercial time right now, and in projecting this a  
12 month or two, I imagine by the time the Commission makes  
13 its decision, they will have taken this into consideration,  
14 the fact that it is going down. It is not going to go up.

15 MR. STEVENS: No further questions.

16 MR. UTZ: You may be excused.

17 (Witness excused.)

18 MR. UTZ: The case will be taken under advisement.

19 We'll have a short recess.

20 (Short recess.)  
21  
22  
23  
24  
25

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<u>I N D E X</u>		
		<u>PAGE</u>
1	<u>WITNESS</u>	
2		
3	WILLIAM J. LEMAY	
4	Direct Examination by Mr. Stevens	2
5	Cross Examination by Mr. Utz	13
6	Cross Examination by Mr. Hinkle	16
7	JERRY TWEED	
8	Direct Examination by Mr. Hinkle	17
9	Cross Examination by Mr. Utz	22
10	Cross Examination by Mr. Stevens	23
11	Redirect Examination by Mr. Hinkle	27
12	Recross Examination by Mr. Utz	29
13	Recross Examination by Mr. Stevens	29
14		
15	<u>EXHIBIT</u>	
16	Applican'ts 1 through 6	2
17	Atlantic Richfield's 1 and 2	17
18		
19		
20		
21		
22		
23		
24		
25		

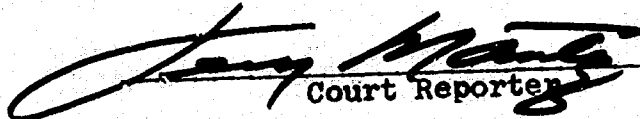
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 2 : ss  
 3 COUNTY OF MCKINLEY )

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 6 that the foregoing and attached Transcript of Hearing before  
 7 the New Mexico Oil Conservation Commission was reported by  
 8 me and that the same is a true and correct record of the said  
 9 proceedings, to the best of my knowledge, skill and ability.

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Docket No. 9-71

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 28, 1971

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,  
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 4352: (Reopened) Continued from the April 14, 1971 hearing. This case will again be continued - to the May 19, 1971 hearing.

In the matter of Case 4352 being reopened by the Oil Conservation Commission upon its own motion to give all interested persons an opportunity to appear and present evidence as to whether the Double L-Queen and Suble-Queen Pools, Chaves County, New Mexico, are in fact separate reservoirs or one common reservoir. Further, in the event it is found that the two pools comprise one common reservoir, the Commission will consider the adoption of special rules and regulations to provide for the classification of oil and gas wells, spacing and well location requirements for oil and gas wells, and an allocation formula for withdrawals from the gas wells and oil wells.

CASE 4523: Application of Texas Pacific Oil Company, Inc., for the re-dedication of acreage, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the rededication of a 160-acre non-standard gas proration unit in the Jalmat Gas Pool comprising the SE/4 of Section 31, Township 25 South, Range 37 East, Lea County, New Mexico, to its Legal Wells Nos. 1 and 2, located, respectively, in Units P and I of said Section 31. Applicant further seeks authority to produce the allowable assigned to said unit from either of said wells in any proportion.

CASE 4524: Application of Texaco Inc. for reinstatement of cancelled underproduction, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the general rules and regulations for the prorated gas pools of Southeastern New Mexico to permit the reinstatement of accumulated underproduction cancelled for its Blinbry "A" Federal (NCT-1) Well No. 2 located in Unit I, Section 31, Township 23 South, Range 37 East, Jalmat Gas Pool Lea County, New Mexico.

CASE 4525: Application of Wolfson Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 280-acre non-standard gas proration unit comprising the SW/4, S/2 NW/4, and NE/4 NW/4 of Section 20, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be dedicated to its

Cities-Federal Well No. 1 located 2310 feet from the South line and 380 feet from the West line of said Section 20.

CASE 4526: Application of Pennzoil United, Inc., for the creation of a new pool and promulgation of special pool rules, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new pool for the production of gas from the San Andres formation for its Superior State Well No. 1 located in Unit L of Section 8, Township 7 South, Range 35 East, Roosevelt County, New Mexico, and for the promulgation of special rules therefor, including a provision for 320-acre spacing units.

CASE 4527: Application of Big "6" Drilling 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 Bone Springs formation in the interval from 10,062 feet to 10,119 feet in its Ora Jackson "A" Well No. 1 located in Unit M of Section 5, Township 19 South, Range 35 East, Scharb-Bone Springs Pool, Lea County, New Mexico.

CASE 4528: Application of Franklin, Aston & Fair, Inc., for an exception to Order No. R-3221, as amended, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, to dispose of water produced by its Coppedge Well No. 1-C located in Unit H of Section 5, Township 18 South, Range 30 East, Loco Hills-Grayburg-San Andres Pool, Eddy County, New Mexico, in an unlined pit in the vicinity of said well.

CASE 4529: Application of El Paso Natural Gas Company for 320-acre spacing, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks 320-acre spacing for the Grayburg-Atoka Gas Pool, Eddy County, New Mexico. Said pool was created prior to June 1, 1964, and therefore is not automatically eligible for 320-acre spacing. In the absence of evidence to the contrary, 320-acre spacing will be established for the pool.

CASE 4530: Application of Amoco Production Company for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle oil production from the Blinbry and Drinkard Pools in the well-bore of its Southland Royalty "A" Well No. 2, a triple completion, located in Unit B of Section 9, Township 21 South, Range 37 East, Lea County, New Mexico.

Examiner Hearing - April 28, 1971

-3-

Docket No. 9-71

CASE 4518: (Readvertised)

Application of American Quasar Petroleum Company of New Mexico for a unit agreement and unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Vaca Draw Unit Area comprising 7,680 acres, more or less, of State, Federal and fee lands in Township 25 South, Range 33 East, Lea County, New Mexico. Applicant further seeks authority to drill an exploratory gas well at an unorthodox location 660 feet from the North line and 760 feet from the East line of Section 28, said Township and Range, to test the Devonian, Pennsylvanian, and Wolfcamp formations within one mile of the Red Hills Field. In the absence of objection an order will issue based upon testimony received in this case on March 31, 1971.

CASE 4531:

Application of Hanson Oil Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water by injection into the Delaware formation in the open-hole interval from 4192 to 4197 feet in its Hanson Federal Well No. 11 located 990 feet from the North line and 1650 feet from the West line of Section 25, Township 26 South, Range 31 East, North Mason-Delaware Pool, Eddy County, New Mexico.

CASE 4532:

Application of Atlantic Richfield Company for the assignment of gas allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the assignment of gas allowable to its Phillips "A" Well No. 9, located 800 feet from the South line and 660 feet from the West line of Section 31, Township 19 South, Range 37 East, Monument-McKee Gas Pool, Lea County, New Mexico, for the proration period from July 1, 1970, through December 31, 1970, and for January and February, 1971. Said well was completed in March, 1971, as a twin replacement well for applicant's Phillips "A" Well No. 8 which ceased producing in 1969 and after extensive and unsuccessful workover operations was abandoned in January, 1971.

CASE 4533:

Application of Amoco Production Company for reinstatement of cancelled under production and reclassification of three wells, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the general rules for prorated gas pools in Southeast New Mexico to permit the reinstatement of underproduction cancelled January 1, 1971, for the following wells: Gillully "B" Fed. No. 3, in Unit N of Section 33, Township 20 South, Range 37 East, Eumont



Pool; Gillully Fed. Gas Com. No. 4, in Unit B of Section 24, Township 20 South, Range 36 East, Eumont Pool; and State "C" Tr. 12 No. 4, in Unit F of Section 16, Township 21 South, Range 37 East, Blinbry Pool. Applicant further seeks the reclassification from marginal to non-marginal of the aforesaid Gillully "B" Fed. No. 3, and the Owen "B" Fed. No. 2 in Unit B of Section 34 and the Southland Royalty "A" No. 2 in Unit B of Section 9, both in Township 21 South, Range 37 East, Tubb Gas Pool.

CASE 4534: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard gas proration unit in the Blinbry Gas Pool consisting of the N/2 SW/4, SE/4 SW/4, and SW/4 SE/4 of Section 21, Township 21 South, Range 37 East, Lea County, New Mexico, to be assigned jointly to its Wantz Wells Nos. 8 and 11 located in Units O and L respectively of said section; or, in the alternative, for the reallocation of acreage between the two wells so as to assign 40-acres to Well No. 11 and 120-acres to Well No. 8.

CASE 4535: Application of Continental Oil Company for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Monument-Tubb and Weir Drinkard oil production in the well-bore of its SEMU Well No. 70, located in Unit I of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico.

Case 4527

Heard 4-28-71

Rec- 5-3-71

Denie Big Lit request for  
an SWD for their Ora Jackson  
A #1 660/5+W 5-19-35. Schart-  
Bone Springs.

In my opinion there are other  
wells in the area which could be  
converted to SWD which do not  
offer the possibilities of waste and  
disruption of consecutive rights.  
The well is still making sub-  
stantial quantities of oil & is  
offset by well with a small  
amount of waste production.

Thud



## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
P. O. BOX 2088 - SANTA FE  
87501

May 13, 1971

GOVERNOR  
BRUCE KING  
CHAIRMAN  
LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER  
STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

Mr. Donald S. Stevens  
McDermott, Connelly & Stevens  
Attorneys at Law  
Post Office Box 1904  
Santa Fe, New Mexico

Re: Case No. 4527  
Order No. R-4145  
Applicant:  
BIG "6" DRILLING 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             
Aztec OCC           

Other Mr. Clarence Hinkle and

State Engineer Office  
Santa Fe, New Mexico

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. 4527  
Order No. R-4145

APPLICATION OF BIG "6" DRILLING  
COMPANY FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 28, 1971,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 13th day of May, 1971, 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 the applicant, Big "6" Drilling Company, seeks  
authority to utilize its Ora Jackson "A" Well No. 1, located in  
Unit M of Section 5, Township 19 South, Range 35 East, NMPM,  
Scharb-Bone Springs Pool, Lea County, New Mexico, to dispose of  
produced salt water into the Bone Springs formation in the  
perforated interval from 10,052 feet to 10,119 feet.
- (3) That in February, 1971, the subject well produced 863  
barrels of oil.
- (4) That diagonal offset wells to the subject well produced  
from 1456 to 2488 barrels of oil during the month of February,  
1971.

-2-

CASE No. 4527  
Order No. R-4145

(5) That these are recoverable reserves of oil and gas in that section of the Bone Springs formation wherein applicant proposes to dispose produced salt water.

(6) That the disposal of produced salt water into the aforesaid section of the Bone Springs formation at the site of the above-described Well No. 1 could result in the drowning out of said section and thereby cause the aforesaid reserves to become unrecoverable, thus causing waste and a violation of correlative rights.

(7) That the subject application should be denied.

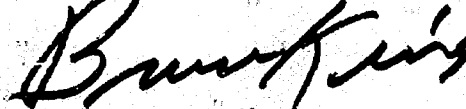
IT IS THEREFORE ORDERED:

(1) That the subject application is hereby denied.

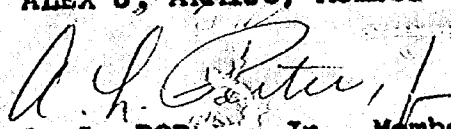
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
BRUCE KING, Chairman

  
ALEX J. ARMIJO, Member

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

dr/

Case No. 4527

Exhibit No. 4  
**BEFORE EXAMINER UTZ**  
 OIL CONSERVATION COMMISSION  
 EXHIBIT NO. 4  
 CASE NO. 4627

## PRODUCTION REPORT

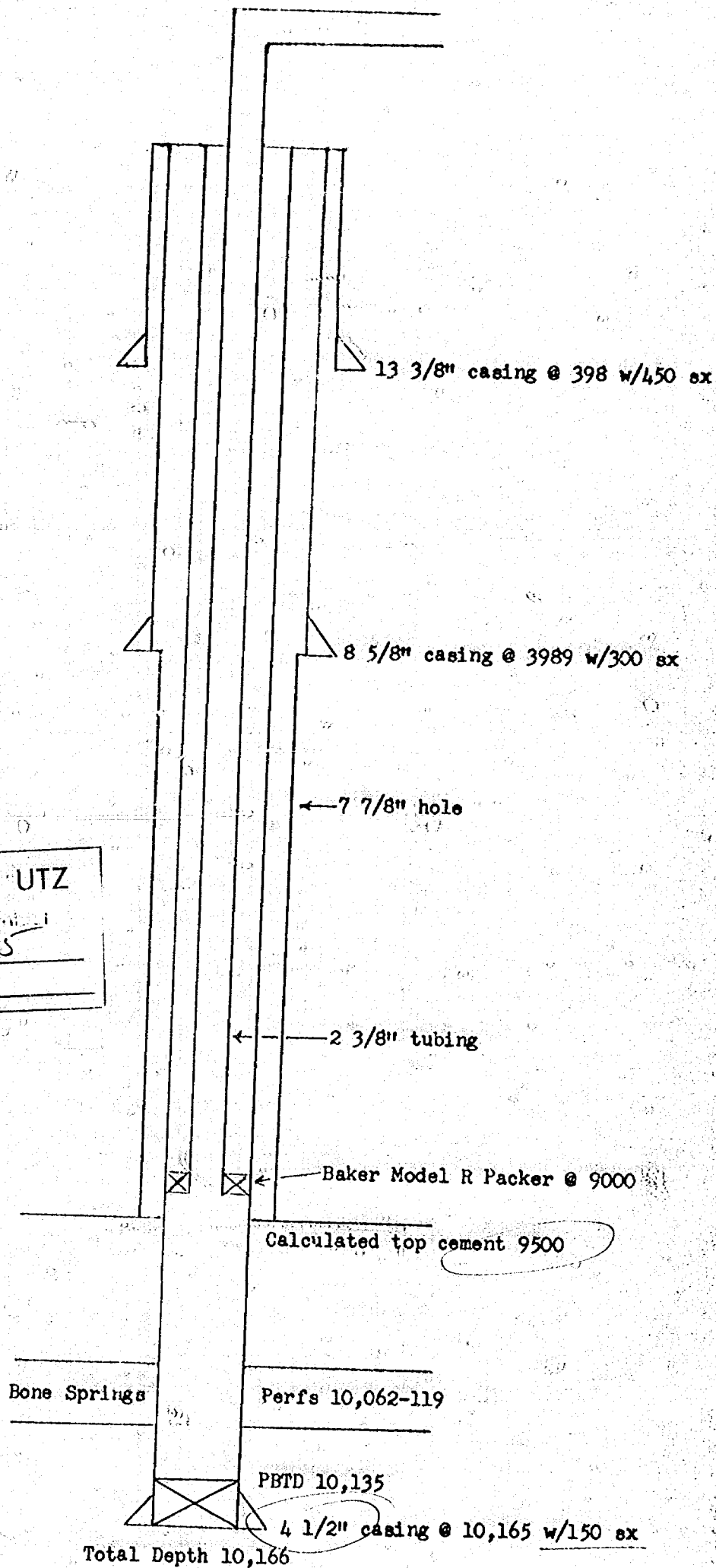
## INJECTION WELL

WELL Big 6 Drilling Co. - Ora Jackson A				Big 6 Drilling Co. - Ora Jackson A			
UNIT NO. 1M 5 19S 35E				2C 8 19S 35E			
FIELD Scharb Bone Springs				Scharb Bone Springs			
ACCUM. TO: 1-1-70 287,491 bbls Oil				1-1-70 140,461 bbls Oil			
	BBLS OIL	BBLS WATER	MCF GAS	BBLS OIL	BBLS WATER	MCF GAS	
JANUARY	2,381	2,800	1,355	523		297	
FEBRUARY	2,169	3,100		477			
MARCH	2,132	3,155	1,372	469		302	
APRIL	1,987	3,185	1,388	437		305	
MAY	1,963	3,150	1,342	431		294	
JUNE	1,590	2,750	1,047	770		515	
JULY	1,861	2,800	1,299	409		1,299	
AUGUST	1,910	3,495	1,425	419		313	
SEPTEMBER	1,590	3,125	987	691		423	
OCTOBER	1,643	2,875	1,036	701		403	
NOVEMBER	1,653	2,825	861	363		189	
DECEMBER	1,629	3,545	922	357		203	
JANUARY	1,263	1,895	760	277		167	
FEBRUARY	863	1,400		189		629	
MARCH	<i>Income</i> 2760	<i>Cost</i> 560		600			
MONTHLY TOTAL:	24,634	40,100	13,794	6,513		5,339	
TOTAL ACCUM. TO:	312,125 bbls oil	<i>150</i> <i>28530</i> <i>114000</i> <i>26000</i>		146,974 bbls			
3-1-71							

Well makes less than 100 bbls of water per month



BEFORE EXAMINER UTZ  
OIL CONSERVATION COMPANY  
EXHIBIT NO. 5  
CASE NO. 4627



Big "6" Drilling Company  
Ora Jackson A No. 1  
660 FSL & 660' FWL  
Sec. 5, T19S, R35E  
Scharb Bone Springs Pool  
Lea County, New Mexico

*Oil Reports and Gas Services*

P. O. Box 743

HOBBS, NEW MEXICO 88240

March 24, 1971

W. L. SMITH, OWNER

PHONE NUMBERS  
293-2737 - 293-2017

State of New Mexico  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Gentlemen:

In accordance with Rule 1203, application is hereby made on behalf of Big "6" Drilling Company for an Examiner Hearing before the Oil Conservation Commission for the purpose of presenting evidence to obtain Commission approval to dispose of produced oil field brine by injection into the Bone Springs formation.

Applicant proposes to convert its Ora Jackson "A" No. 1, located 660 feet from the South line and 660 feet from the West line of Section 5, Township 19 South, Range 35 East, Scharb Bone Springs Pool, Lea County, New Mexico, to a salt water disposal well. Water to be injected into the lower Bone Springs interval 10,062 to 10,119 feet through 2 3/8" plastic lined tubing with a Baker Model "R" packer set at approximately 9000 feet.

Water to be so disposed will consist of approximately 125 to 130 barrels per day, produced from applicants four remaining wells in the Scharb Bone Springs Pool.

Interested parties who have this day been furnished a copy of this application:

Atlantic Richfield Company, Box 352, Midland, Texas 79701  
Gulf Oil Corporation, Box 670, Hobbs, New Mexico 88240  
Hondo Oil and Gas Company, Box 1000, Roswell, New Mexico 88201  
Humble Oil and Refining Company, Box 1600, Roswell, New Mexico 88201  
R. E. Lawson, Jr., Box 1463, Midland, Texas 79701  
Marathon Oil Company, Box 552, Midland, Texas 79701  
Pennzoil United, Inc., Wall Towers West Bldg., Midland, Texas 79701  
Charles B. Read, Box 2126, Roswell, New Mexico 88201  
Standard Oil Company of Texas, Box 1660, Midland, Texas 79701  
United States Smelting, Refining & Mining Company, Box 1877, Midland, Texas 79701

Yours very truly,

OIL REPORTS AND GAS SERVICES, INC.

*Donna Holler*  
(Mrs.) Donna Holler  
Agent, Big "6" Drilling Company

DH/as

DOCKET MARKED

Date 4-16-71

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. 4527

Order No. R-4145

APPLICATION OF BIG "6" DRILLING  
COMPANY FOR SALT WATER DISPOSAL,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 28, 1971,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this        day of May, 1971, 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 the applicant, Big "6" Drilling Company, seeks  
authority to utilize its Ora Jackson "A" Well No. 1, located in  
Unit M of Section 5, Township 19 South, Range 35 East, NMPM,  
Scharb-Bone Springs Pool, Lea County, New Mexico, to dispose of  
produced salt water into the Bone Springs formation in the  
perforated interval from 10,062 feet to 10,119 feet.

(3) That in February, 1971, the subject well produced 863  
barrels of oil.

-2-

CASE NO. 4527

Order No. R-

(4) That diagonal offset wells to the subject well produced from 1456 to 2488 barrels of oil during the month of February, 1971.

(5) That these are recoverable reserves of oil and gas in that section of the Bone Springs formation wherein applicant proposes to dispose produced salt water.

(6) That the disposal of produced salt water into the aforesaid section of the Bone Springs formation at the site of the above-described Well No. 1 <sup>could</sup> would result in the drowning out of said section and thereby cause the aforesaid reserves to become unrecoverable, thus causing waste and a violation of correlative rights.

(7) That the subject application should be denied.

IT IS THEREFORE ORDERED:

(1) That the subject application is hereby denied.

(2) 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.

R 35 E

Completed from  
Carbonate pay  
550 above  
Sah. nb pay

428

1963

326

1456

2384

863

420

5436

6221

1579

1488

187

86

NR

16

605

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576

128

T  
19  
S

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION

EXHIBIT NO. 3

CASE NO. 4627

Case 4527

Exhibit No. 3

PRODUCTION DATA MAP

189

Feb., 1971 Production  
in bbls. of oil

