

CASE 6883: SUN OIL COMPANY FOR  
DOWNHOLE CORRELATING, LEA COUNTY,  
NEW MEXICO

Case Number

6083

Application

Transcripts.

Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 16, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of Sun Oil Company for  
downhole commingling, Lea County,  
New Mexico.

CASE  
6083

BEFORE: Richard L. Stamets, Examiner.

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: Lynn Teschendorf, Esq.  
Legal Counsel for the Commission  
State Land Office Building  
Santa Fe, New Mexico

For the Applicant: Jason W. Kellahin, Esq.  
KELLAHIN & FOX  
Attorneys at Law  
500 Don Gaspar  
Santa Fe, New Mexico

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1 MR. STAMETS: The hearing will please come to  
2 order. Call the next case, Case 6083.

3 MS. TESCHENDORF: Case 6083, application of Sun  
4 Oil Company for downhole commingling, Lea County, New Mexico.

5 MR. KELLAHIN: If the Examiner please, Jason  
6 Kellahin, Kellahin & Fox, appearing on behalf of the applicant  
7 and I have one witness to be sworn.

8 (THEREUPON, the witness was sworn.)  
9

10 STEPHEN A. GILLETT

11 was called as a witness by the applicant, and having been  
12 first duly sworn, testified upon his oath as follows, to-wit:  
13

14 DIRECT EXAMINATION

15 BY MR. KELLAHIN:

16 Q State your name, please?

17 A Stephen A. Gillett.

18 Q By whom are you employed and in what position?

19 A Sun Oil Company as a Petroleum Engineer.

20 Q Where are you located?

21 A Midland.

22 Q Have you ever testified before the Oil Conservation  
23 Commission and made your qualifications as an engineer a matter  
24 of record?

25 A Yes, sir.

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1 MR. KELLAHIN: Are the witness' qualifications  
2 acceptable?

3 MR. STAMETS: They are.

4 Q (Mr. Kellahin continuing.) Mr. Gillett, are you  
5 familiar with the application of Sun Oil Company in Case  
6 6083?

7 A Yes, sir, I am.

8 Q What does the applicant propose in this case?

9 A We propose to downhole commingle our State Land 15  
10 No. 4 Well in the Drinkard and in the Tubb -- this is Unit P,  
11 Section 16, Township 21 South, Range 37 East, Lea County.

12 Q Now referring to what has been marked as Exhibit  
13 A and contained in it are Exhibits One through Eleven, inclusi  
14 and would you discuss the first Exhibit in that?

15 A Exhibit Number One is the plat of part of the  
16 Drinkard and Tubb field in and around the subject lease.

17 On this plat you will see in blue the Drinkard wells  
18 and in red the Tubb wells in the immediate area around the  
19 subject well.

20 The subject well has a red arrow on it identifying  
21 it.

22 Q Now, where they are both red and blue are those  
23 dual completions?

24 A Those are dual or commingled completions.

25 Q Will you point out the commingled, please?

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1 A The only commingled well that I am aware of is  
2 the Elliott A No. 2, which is the second offset to the south  
3 of the subject well also operated by Sun Oil.

4 MR. STAMETS: That's on that eighty acre tract with  
5 a hachured outline?

6 A Yes.

7 Q (Mr. Kellahin continuing.) That was recently  
8 approved by this Commission?

9 A Yes, sir.

10 Q Essentially, it is the same type of completion that  
11 you are talking about here?

12 A Yes, sir.

13 Q Now, referring to what has been marked as Exhibit  
14 Two, would you explain that?

15 A Exhibit Number Two is a tabulation of a recent  
16 production test on the Drinkard and Tubb wells operated by  
17 Sun Oil Company in the immediate vicinity of the subject  
18 well.

19 Q Referring to what has been marked as Exhibit Number  
20 Three would you identify that exhibit?

21 A Exhibit Number Three is a similar exhibit. In this  
22 situation it is tabulating production recent test data from  
23 offset operators in the Drinkard Pool, only.

24 Q Now, do these two exhibits indicate that production  
25 is declining in this area?

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1 A Yes, sir, they do.

2 Q Now, Exhibit Number Four, would you identify that  
3 exhibit?

4 A Exhibit Number Four is another exhibit of the same  
5 type of structure for Tubb gas production in and around the  
6 subject well.

7 Q Does that likewise show a decline in production?

8 A Yes, sir, it does.

9 Q Exhibit Number Five?

10 A Exhibit Number Five is a tabulation of bottom hole  
11 pressure data, the most recent data available, on the same  
12 wells in and around the subject well in both the Drinkard  
13 and the Tubb.

14 I have one other bottom hole pressure in the  
15 Drinkard that was inadvertently omitted.

16 In the Drinkard zone, the Sun Oil Elliott A No. 2  
17 and that's 21, 21, 37, dated November 19, 1975, forty-eight  
18 hour shut in four hundred and eighty-four pounds.

19 I am sorry that that was left off of the exhibit.

20 Q Now, there seems to be a wide variation of bottom  
21 hole pressures. How do you account for that?

22 A Yes, sir, there is quite a variation and it is  
23 simply a matter of depletion in the area, the relative  
24 gathering pressures of the gas gathering lines, in the case  
25 of the Tubb, and the cumulative production from the wells.

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1 Q And it would take longer, a seventy-two hour, shut  
2 in to build up again?

3 A That is true.

4 Q If it would build up?

5 A If it would build up, that's correct.

6 Q Now, referring to what has been marked Exhibit  
7 Number Six would you identify that exhibit?

8 A Exhibit Number Six is a history of the subject well  
9 from its spud date in 1947 to the present and it does indicate  
10 that the well was planned and approved by the Commission to  
11 be dualled as a Drinkard-Tubb this past month.

12 During that job, which we were trying to reestablish  
13 production in the lower Drinkard oil zone, we found that we  
14 would be -- it would be to the advantage of all parties  
15 concerned to go ahead and commingle the well and the work-over  
16 terminated at that point pending the outcome of this hearing.

17 Q What is the alternative to commingling?

18 A The alternative is to attempt to continue to produce  
19 the well as a dual well with the understanding that it is  
20 most probable that Tubb production will cease to continue  
21 in the near future due to the inability of the reservoir to  
22 exceed the gathering pressures of the gas gathering  
23 system.

24 The reduced bottom hole pressure in the Drinkard  
25 zone requiring the need for artificial lift is compounded

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1 by the fact that if this were a dual well you would have to  
2 pump under a packer and with a high G.O.R. present in the  
3 Drinkard it would cause gas loss problems and would restrict  
4 the ability to effectively lift the thing.

5 Q Would that alternative result in the loss of oil  
6 and gas that could otherwise be recovered?

7 A Yes, sir, it would.

8 Q And that would constitute waste?

9 A Yes, sir.

10 Q Referring to Exhibit Number Seven would you identify  
11 that exhibit, please?

12 A Exhibit Number Seven is a plot of production from  
13 the Drinkard zone in the subject well from 1967 to the present.

14 It is in two sections. You will see on the years  
15 of '67 through '70, the well was completed only in the lower  
16 Drinkard oil zone at which time in January of 1971, the well  
17 was temporarily abandoned as marginal and uneconomical.

18 In 1975, when the Commission allowed completion in  
19 the gas cap of the Drinkard the well was recompleted to this  
20 upper zone and you can see the production there with a very  
21 steep decline.

22 Q It has dropped off quite rapidly has it?

23 A Yes, sir, it has.

24 Q Now, referring to Exhibit Number Eight would you  
25 identify that exhibit?

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1 A Exhibit Number Eight is a decline curve on the  
2 Tubb production history from 1967 to the present.

3 Again, it shows the decline that is apparent in  
4 that reservoir.

5 Q Now, referring to Exhibit Number Nine would you  
6 identify that exhibit, please?

7 A Exhibit Number Nine is a well completion sketch  
8 showing the well in its present condition and showing a  
9 permanent packer between the Drinkard oil and the Drinkard  
10 gas zones and a retrievable packer separating the Drinkard  
11 and the Tubb zones.

12 Q So, the Drinkard gas cap and the Drinkard zone was  
13 previously separated?

14 A Yes, they were.

15 Q And were produced separately?

16 A Yes. We just recently removed a D.R. plug from that  
17 permanent packer in an attempt to commingle the -- or to  
18 put the two Drinkard zones together and the well is presently  
19 dead with load water in the hole.

20 Q Now, referring to what has been marked as Exhibit  
21 Number Ten identify that exhibit, please?

22 A Exhibit Number Ten describes the way Sun Oil Company  
23 would like to complete the well showing all zones commingled  
24 with sucker-rod pump installation Seton nipple and perforating  
25 nipple set just above the permanent packer. Gas anchor above

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1 the Tubb perforations thereby allowing gas to be produced  
2 above the casing tubing annulus and oil to be pumped through  
3 the tubing.

4 Q Will that type of a completion enable you to  
5 continue production of the Drinkard oil?

6 A Yes, sir, it will. It will allow for that to be  
7 accomplished. It will effectively reduce the restrictions  
8 in the well bore and -- or pressures in the well bore -- and  
9 allow the entry into the well bore to be increased and  
10 thereby increase production.

11 It will eliminate or reduce the possibility of gas  
12 loss.

13 Q It will not interfere with the production of gas  
14 from the Tubb formation?

15 A No, sir, it will not, and it will reduce the  
16 possibility of cross flow with the well commingled in any other  
17 manner.

18 Q Now, is there a substantial difference in the  
19 pressures between these two zones?

20 A We have no pressures on the Drinkard at this time  
21 but based on the pressures that were presented in Exhibit Number  
22 Six we feel that there will be no cross flow and everything  
23 will be on the up and up.

24 Q Neither the Tubb or the Drinkard formations will be  
25 damaged by the commingling in this case?

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1 A No, not at all.

2 Q Now, referring to what has been marked as Exhibit  
 3 Number Eleven would you identify that?

4 A Exhibit Number Eleven is our plan for changing  
 5 the status of the well from its current status to what is  
 6 proposed in Exhibit Number Ten.

7 Also, at the bottom half of the page of Exhibit  
 8 Number Eleven is our recommended allocation formula.

9 Q You recommend, on the basis of that, that all of  
 10 the liquid be allocated to the Drinkard?

11 A Yes, sir.

12 Q And the gas allocated to the Drinkard on the basis  
 13 of a five thousand to one G.O.R.?

14 A Yes.

15 Q And the remaining gas to the Tubb?

16 A Yes.

17 Q Now, with the commingled production will it make  
 18 any change in the value of your production?

19 A No, sir, it will not.

20 Q So, the overriding royalties or royalties will not  
 21 be impaired in any way?

22 A No, sir, they will not.

23 Q Was Exhibit A and its components, Exhibits One  
 24 through Eleven prepared by you or under your supervision?

25 A Yes, sir, they were.

1 MR. KELLAHIN: At this time I offer Exhibit

2 A.

3 MR. STAMETS: Exhibit A will be admitted.

4 MR. KELLAHIN: That's all I have of this witness,

5 Mr. Stamets.

7 CROSS EXAMINATION

8 BY MR. STAMETS:

9 Q Mr. Gillett, on your well diagram, Exhibit Ten, shows  
10 the tubing extended to the upper packer. Will that packer  
11 still be in the hole?

12 A That is a tubing anchor, not a packer.

13 Q I see.

14 A It is noted right to the right of the --

15 Q All right. I wasn't sure what that was -- okay --  
16 now, referring back to Exhibit Number Eight, it would appear  
17 that the Tubb gas is pretty well leveled off around two  
18 million a day?

19 A Two hundred M.C.F. or a little less than that and  
20 continuing to fall. I wouldn't say leveled off, no, sir.

21 Q It appears that is falling pretty slowly from  
22 '76 and '77?

23 A Well, I would tend to extrapolate that thing some-  
24 thing like this (indicating) based on the production history  
25 over that period of time.

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1 Q That was a substantial drop, say, between '73 and  
2 '74, and then '76 and '77, of course you have got an increase  
3 then between '73 and '74, and were these line pressure  
4 problems?

5 A To the best of my knowledge in the period up to  
6 '74, the well was capable of producing all that the allowable  
7 required or that the gatherer needed and since that time the  
8 gathering has been able to take all the well could give.

9 Q You indicated that you might have some line pressure  
10 problems?

11 A Yes, sir, we do. Our Tubb gas is dedicated to  
12 Northern Natural -- by the way both reservoirs are interstate  
13 gas sales so there would be no change in that and there is no  
14 problem with the federal agencies involved.

15 But it is a high pressure gathering system and the  
16 gathering pressure at our well is approximately one hundred  
17 and thirty pounds and our surface well, flowing well head,  
18 pressure on the Tubb varies between one hundred and thirty  
19 to one hundred and seventy.

20 That is expected to continue to decline.

21 Q How about the Drinkard gas? What kind of pressure  
22 to you have there?

23 A Let's see. Right now we don't, the well is dead.  
24 I am sorry I don't have a recent -- yes, I do on the Drinkard  
25 the last pressure we had before we went back and got the

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1 lower zone was eighty pounds on a half inch choke.

2 The gathering pressure of the Drinkard gas is  
3 dedicated to Skelly and the line pressure there is six  
4 pounds.

5 Q Okay. What are you going to do with all of this  
6 gas out of the commingled?

7 A It will be processed by Skelly and Northern will pick  
8 up their gas at the tailgate of the plant.

9 Q So, actually you will be in a little better shape  
10 then because you will be able to sell all of the gas down the  
11 low pressure line?

12 A That's correct.

13 Q Now, this formula, again it is a little unusual, how  
14 about that five thousand G.O.R.? Has that held pretty  
15 steady? Do you expect that to hold steady?

16 A Well, we have examined our Tubb and Drinkard wells  
17 in the area and the cumulatives on this particular well the  
18 Tubb cumulative has a G.O.R. of one hundred and seventy-  
19 three thousand to one.

20 The Drinkard cumulative G.O.R. in this well is  
21 twenty-six sixty.

22 However, you have to understand that the Drinkard  
23 was produced from 1947 to 1975, from the lower oil zone, only,  
24 and now we do have the gas cap open. Five thousand to one  
25 seems to be an equitable G.O.R. -- also what we are seeing out

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1 of this Elliott A 2 Well, the one that I mentioned was  
2 recently commingled.

3 Q With this kind of a formula it is possible that you  
4 could have more gas which should be a sign of the Drinkard  
5 that you have produced assuming that the total combined  
6 G.O.R. for the well was less than five thousand -- you wouldn't  
7 have enough gas to assign to the Drinkard?

8 A I don't believe that there is any chance of that  
9 happening.

10 I can give you the production that we have on the  
11 commingling of this Elliott A 2 Well. It was completed about  
12 a month ago and before the commingling, the Drinkard produced  
13 two barrels of oil, one barrel of water and one M.C.F. of gas.

14 The Tubb produced no liquids and seventy-two M.C.F.  
15 for a total production of one hundred and two M.C.F. a day.

16 Now, the well is producing eleven barrels of oil,  
17 four barrels of water and two hundred twenty M.C.F.

18 Based on a five thousand to one G.O.R. that would  
19 give us fifty-five M.C.F. to the Drinkard and the rest to  
20 the Tubb which is an equitable allocation in my opinion.

21 Q Looking at Exhibit Number Five it would appear that  
22 perhaps you might have as much as a two hundred pound pressure  
23 differential between the Drinkard and the Tubb?

24 A Well, you can read any of a number of things from  
25 these pressures there is such a wide variation. But as I

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1 stated earlier our well head surface flowing pressures on  
2 the Tubb is one hundred and thirty pounds and on the Drinkard  
3 is eighty pounds.

4 Q Really, you don't expect any problem there?

5 A I don't see any problem there.

6 MR. STAMETS: Okay. Any other questions of the  
7 witness? He may be excused. Anything further in this  
8 case?

9 MR. KELLAHIN: That's all, Mr. Stamets, thank  
10 you.

11 MR. STAMETS: Take the case under advisement.  
12 (THEREUPON, the witness was excused and the  
13 case was concluded.)  
14  
15  
16  
17  
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REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,  
do hereby certify that the foregoing and attached Transcript  
of Hearing before the New Mexico Oil Conservation Commission  
was reported by me, and the same is a true and correct record  
of the said proceedings to the best of my knowledge, skill and  
ability.

*Sidney F. Morrish*  
Sidney F. Morrish, C.S.R.

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I do hereby certify that the foregoing is  
a correct and true copy of the proceedings in  
the Ex parte hearing of Case No. 6023.  
heard by me on 11-16-77, 1977.  
*Richard L. [Signature]*, Examiner  
New Mexico Oil Conservation Commission



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. 6083  
Order No. R-5598

APPLICATION OF SUN OIL COMPANY  
FOR DOWNHOLE COMMINGLING, LEA  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 16, 1977, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 22nd day of November, 1977, 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, Sun Oil Company, is the owner and operator of the State 15 Well No. 4, located in Unit P of Section 16, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.
- (3) That the applicant seeks authority to commingle Drinkard and Tubb production within the wellbore of the above-described well.
- (4) That from the Drinkard zone, the subject well is capable of low marginal production only.
- (5) That from the Tubb zone, the subject well is capable of low marginal production only.
- (6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.
- (7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

-2-

Case No. 6083  
Order No. R-5588

(8) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Hobbs district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Hobbs district office of the Commission and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sun Oil Company, is hereby authorized to commingle Drinkard and Tubb production within the wellbore of the State 15 Well No. 4, located in Unit P of Section 16, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(2) That the applicant shall consult with the supervisor of the Hobbs district office of the Commission and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

(3) That the operator of the subject well shall immediately notify the Commission's Hobbs district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

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

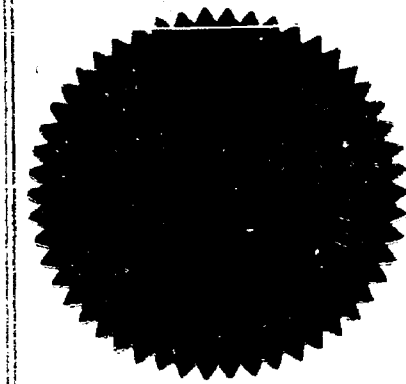
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary



S E A L

Dr/

NEW MEXICO OIL CONSERVATION COMMISSION  
DRINKARD AND TUBE POOLS

LEA COUNTY, NEW MEXICO

CASE NUMBER 6083

NOVEMBER 16, 1977

SUN OIL COMPANY  
 DRINKARD AND TUBB GAS POOL  
 DAILY PRODUCTION DATA  
 (AUGUST, 1977)

<u>ZONE AND WELL</u>	<u>BOPD</u>	<u>MCFPD</u>	<u>STATUS</u>	<u>LOCATION</u>
<u>Drinkard</u>				
Elliott A #1	17	530	P	Sec. 21, T-21-S, R-37-E
Elliott A #2	2	12	P	Sec. 21, T-21-S, R-37-E
State Land 15 #2	11	254	P	Sec. 16, T-21-S, R-37-E
State Land 15 #6	11	555	P	Sec. 16, T-21-S, R-37-E
State Land 15 #4	7	319	P	Sec. 16, T-21-S, R-37-E
<u>Tubb Gas</u>				
Elliott A #2	-	25	P	Sec. 21, T-21-S, R-37-E
State Land 15 #4	0	224	P	Sec. 16, T-21-S, R-37-E

<b>SUN OIL COMPANY</b>	
<b>DALLAS REGION</b>	
<b>DRINKARD &amp; TUBB POOLS</b>	
<b>LEA COUNTY, NEW MEXICO</b>	
<b>DAILY PRODUCTION DATA-SUN OIL COMPANY</b>	
Case No. 6083	Ex. No. 2
November 16, 1977	



DRINKARD POOL  
DAILY PRODUCTION DATA (OTHER OPERATORS)  
(AUGUST, 1977)

<u>ZONE AND WELL</u>	<u>BOPD</u>	<u>MCFPD</u>	<u>STATUS</u>	<u>LOCATION</u>
<u>Drinkard</u>				
<u>Amerada Hess</u>				
State "DA" #1		Shut In		Sec. 16, T-21-S, R-37-E
State "DA" #2	3	25	F	Sec. 16, T-21-S, R-37-E
State "DA" #3	.8	401 (23 days)	FG	Sec. 16, T-21-S, R-37-E
State "DA" #4	3	355 (23 days)	FG	Sec. 16, T-21-S, R-37-E
<u>Atlantic Richfield</u>				
A. M. York #2A (Dual)		Last prod. prior 6/73	F	Sec. 20, T-21-S, R-37-E
A. M. York #1	3	50 (10-76)	F	Sec. 20, T-21-S, R-37-E
<u>Continental Oil</u>				
Lockhart A -17- #2	-	-	T	Sec. 17, T-21-S, R-37-E
Lockhart A -17- #3 (Dual)	3	13	P	Sec. 17, T-21-S, R-37-E
Lockhart A -17- #4 (Dual)	6	121	F	Sec. 17, T-21-S, R-37-E
<u>Hunt, Inc.</u>				
Weatherly #3		Last prod. 7/77	F	Sec. 21, T-21-S, R-37-E
Weatherly #4	4	243	F	Sec. 21, T-21-S, R-37-E
Weatherly #5	6	167	F	Sec. 21, T-21-S, R-37-E
Weatherly #6	14	850	F	Sec. 21, T-21-S, R-37-E
Weatherly #7	2	260	F	Sec. 21, T-21-S, R-37-E
<u>Shell Oil Company</u>				
Argo #1	6	384	F	Sec. 15, T-21-S, R-37-E
Argo #3	4	63	F	Sec. 15, T-21-S, R-37-E
Argo #5			TA	Sec. 15, T-21-S, R-37-E
Argo #6	6	168	F	Sec. 15, T-21-S, R-37-E
Argo #8	3	157	F	Sec. 15, T-21-S, R-37-E
Argo #10	8	442	F	Sec. 15, T-21-S, R-37-E
Argo A #3	9	257	F	Sec. 22, T-21-S, R-37-E
Argo A #4	8	278	F	Sec. 22, T-21-S, R-37-E
Argo A #8	5	287	F	Sec. 22, T-21-S, R-37-E
Argo A #12	2	188	F	Sec. 22, T-21-S, R-37-E
<u>Sohio</u>				
Percy Hardy #1		Last prod. prior 6/73	T	Sec. 17, T-21-S, R-37-E

**SUN OIL COMPANY**  
**DALLAS REGION**  
**DRINKARD & TUBE POOLS**  
**LEA COUNTY, NEW MEXICO**

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DAILY PRODUCTION DATA - (OTHER OPERATORS)  
 DRINKARD POOL  
 Case No. 6083 Nov. 16, 1977 Ex. No. 3

TUBB GAS POOL  
DAILY PRODUCTION DATA (OTHER OPERATORS)  
 (AUGUST, 1977)

<u>ZONE AND WELL</u>	<u>BOPD</u>	<u>MCFPD</u>	<u>STATUS</u>	<u>LOCATION</u>
<u>Tubb Gas</u>				
<u>Amerada Hess</u>				
State "DA" #3		196	P	Sec. 16, T-21-S, R-37-E
<u>Hunt, Inc.</u>				
Weatherly #1		367(24 days)	P	Sec. 21, T-21-S, R-37-E
<u>Shell</u>				
Argo #5	Last prod. 7/77			Sec. 21, T-21-S, R-37-E
Argo A #2	5 777		P	Sec. 22, T-21-S, R-37-E

**SUN OIL COMPANY**  
 DALLAS REGION  
 DRINKARD & TUBB POOLS  
 LEA COUNTY, NEW MEXICO  
 DAILY PRODUCTION DATA - (OTHER OPERATORS)  
 TUBB POOL  
 Case No. 6083 Nov. 16, 1977 Ex. No. 4

SUN OIL COMPANY  
BOTTOM HOLE PRESSURE DATA  
DRINKARD AND TUBB POOLS  
LEA COUNTY, NEW MEXICO

DRINKARD

State "DA" #3 16-21-37 (Amerada Hess)  
7/15/76 71 hrs. 461 psi  
State "DA" #4 16-21-37 (Amerada Hess)  
7/15/76 71 hrs. 494 psi  
Weatherly #3 21-21-37 (Hunt, N. B.)  
9/26/75 673 psi  
Weatherly #6 21-21-37 (Hunt, N. B.)  
9/27/75 68 psi  
State Land 15 #2 16-21-37 (Sun)  
9/25/75 550 psi

*Ell # A # 2  
21-21-37  
Nov 19-75  
484 #*

TUBB

State "DA" #3 16-21-37 (Amerada Hess)  
4/1/76 72 hrs. 772 psi  
Argo #5 15-21-37 (Shell)  
6/7/76 72 hrs. 400 psi  
Argo "A" #2 22-21-37 (Shell)  
6/7/76 72 hrs. 75 psi  
Elliott "A" 2 21-21-37 (Sun)  
4/23/76 71 hrs. 391 psi  
\*State Land 15 #4 16-21-37 (Sun)  
7/15/76 71 hrs. 639 psi  
Weatherly #1 21-21-37 (Hunt, N. B.)  
6/7/76 72 hrs. 322 psi

\*Subject well.

<b>SUN OIL COMPANY</b>	
DALLAS REGION	
DRINKARD & TUBB POOLS	
LEA COUNTY, NEW MEXICO	
BOTTOM HOLE PRESSURE DATA	
Case No. 6083	Ex. No. 5
November 16, 1977	

## History

6-47 Spud  
 7-47 TD-6665'. 5½", 15.5# @ 6664'. PBTD-6658'. Perf Drinkard oil 6555'-6640', 4 SPF, 340 holes. Set Baker "D" pkr @ 6520'.  
 Acid - 500 gal  
 IP: 110½ bbl oil in 4 hrs; 150# FTP, 100# CP  
 169 MCF, 1513 GOR

12-48 Acid - 3000 gal. No change in oil. Slight increase in gas.

3-54 Perf Tubb 6165'-6300', 4 SPF, 540 holes  
 Acidize Tubb - 2500 gal  
 CAOPF: 5547 MCF on 2" chk  
 Dual w/Drinkard.

9-60 Frac Drinkard w/14,000 gal refined oil, and 3000 gal acid, and 20,000# SD before sanding out. Drilled out pkr @ 6520'. Set new Bkr "D" @ 6530'.  
 Before: 2.5 BOPD  
 After: 22 BO, 0 BW, 128 MCF w/90# FTP  
 No test on Tubb.

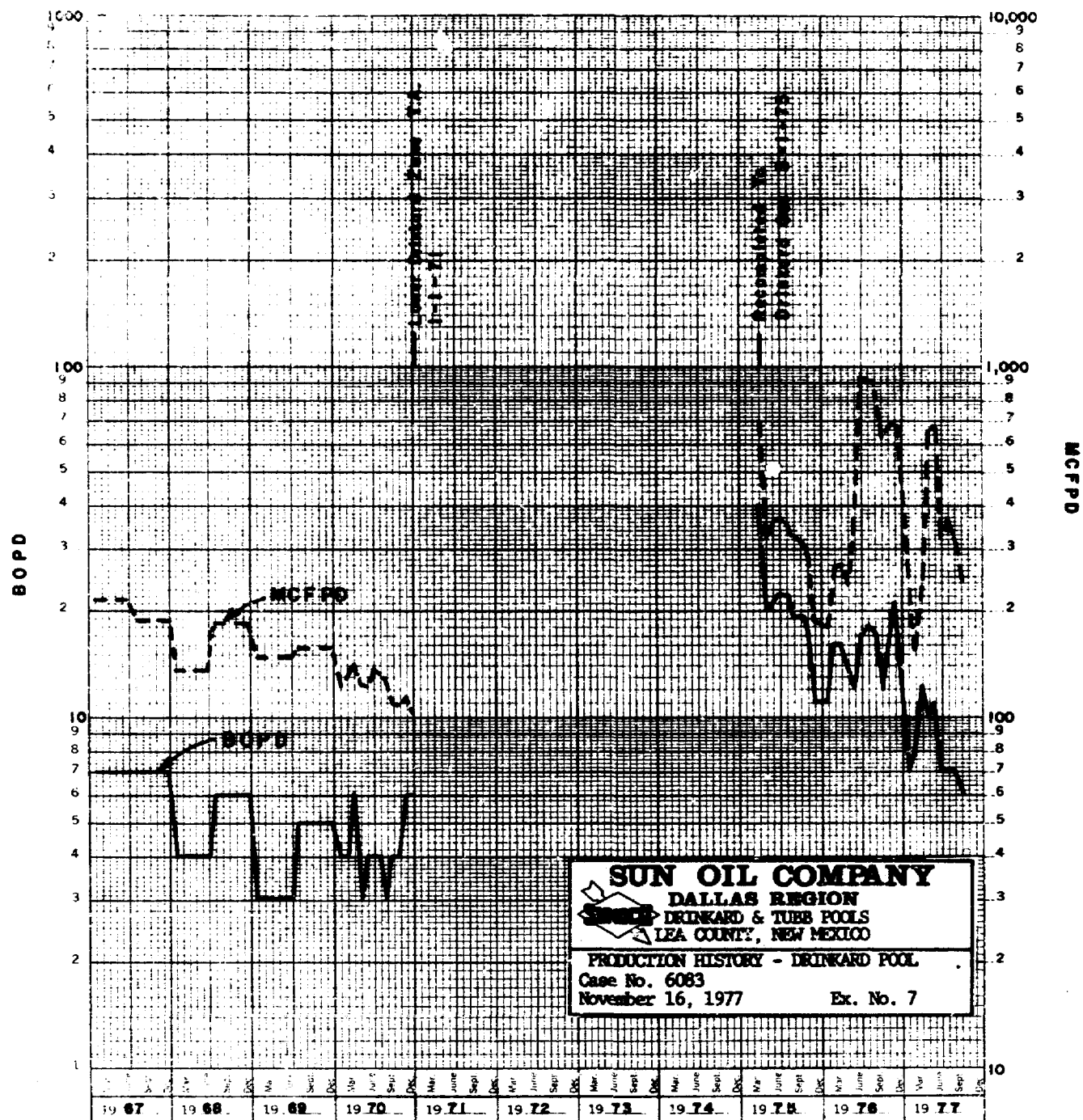
1971 Drinkard dead.

2-75 Set "DR" plug in pkr @ 6530'.  
 Perf Drinkard gas 6413, 18, 37, 45, 68, 75, 80, 90, 6500, 03, 07, 16, 19; 13 holes  
 Acid new perfs - 3000 gal  
 Frac new perfs - 30,000 gal gelled KCL water and 26,000#  
 After: Drinkard: 66 BO, 0 BW, 1095 MCF, 16585 GOR,  
 22/64 chk, 420# FTP  
 Tubb: 0 BO, 0 BW, 500 MCF

10-77 Pulled "DR" plug in pkr @ 6530'.  
 Acidize Drinkard oil and gas zones w/5000 gal.  
 SI pending NMOCC hearing to comingle downhole. -522 BLAW.

<b>SUN OIL COMPANY</b>	
DALLAS REGION	
SUN OIL DRINKARD & TUBB POOLS	
LEA COUNTY, NEW MEXICO	
WELL HISTORY	
Case No. 6083	Ex. No. 6
November 16, 1977	

6843-

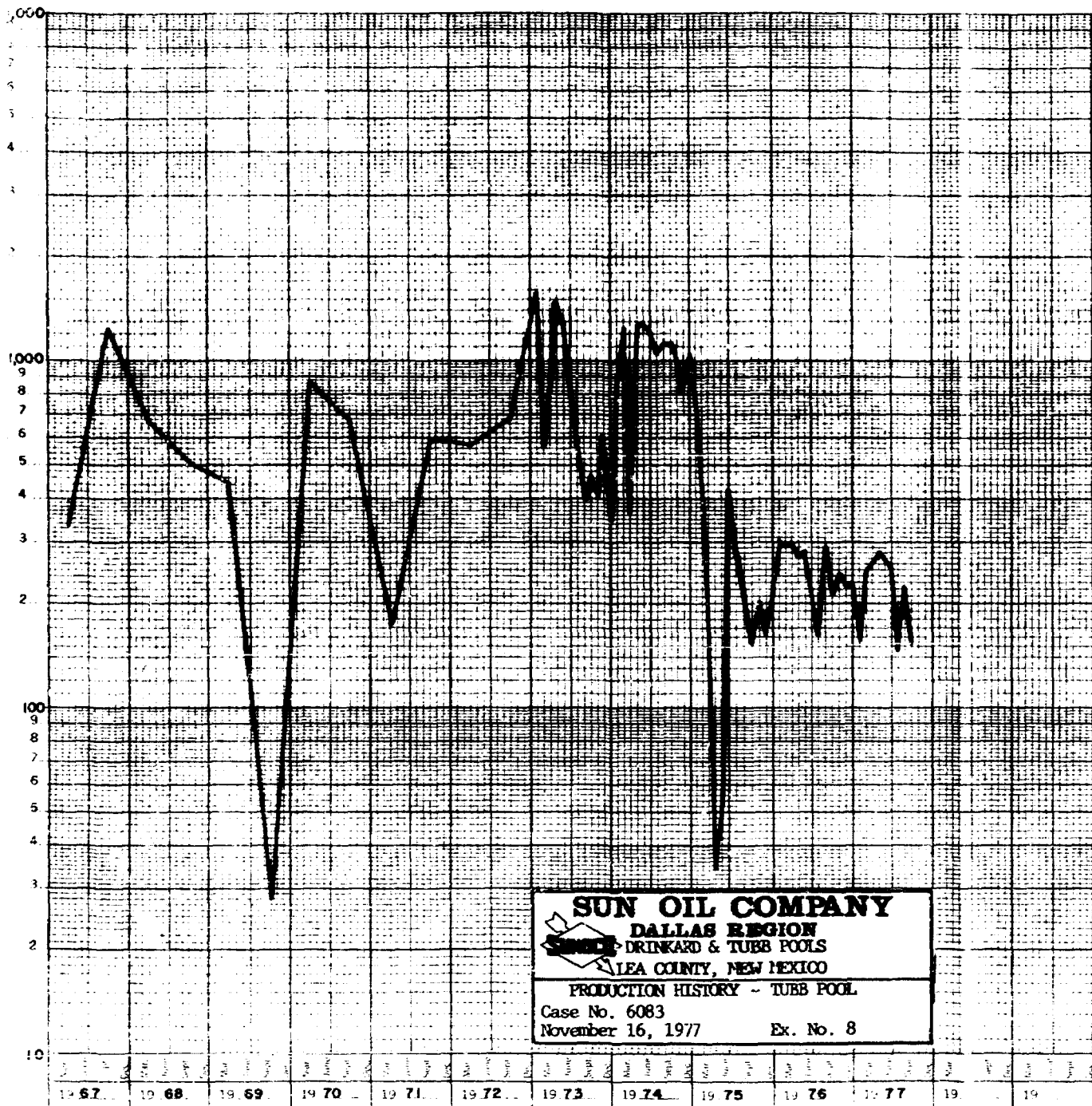


STATE LAND -15- NO. 4-C  
TUBB PRODUCTION

47 6843

20 YEARS BY MONTHS & 100 CYCLES  
RENTAL & CASH CO. ADJUSTMENT

MCFPD



**SUN OIL COMPANY**  
DALLAS REGION  
DRINKARD & TUBB POOLS  
LEA COUNTY, NEW MEXICO  
PRODUCTION HISTORY - TUBB POOL  
Case No. 6083  
November 16, 1977 Ex. No. 8

**SUN OIL COMPANY**  
DALLAS REGION  
 **DRINKARD & TUBB POOLS**  
LEA COUNTY, NEW MEXICO  
PRESENT COMPLETION  
Case No. 6083  
November 16, 1977 Ex. No. 9

WELL

**FIELD**

ELEV: 3450 - DM

8436 -GL

DATE 3/24

WELL CLASS D.H. Com. 046

**DATA ON THIS COMPLETION**

13 3/8", 40", @ 220'w/250sx

818, 5A, C 2865 W/10052  
270 km

LOC: S 1/2 X hole: 3930 BY: L.S

45 PF. 540 holes

~~64, 13, 18, 32, 45, 68, 75, 80, 90,~~

BAKER DSR PKR 6530

6555-6640, 43PF, 340 holes

5 1/2, 15.5", J-55 @ 6664' w/ 400SK

1 1/4" INSERT PUMP ON "26" REQ

218, 6.5, J-55 © 6515

## DALLAS REGION

### PROPOSED COMPLETION

November 16, 1977

Ex. No. 10



State Land -15- #4

Comingling Procedure

1. MIRU. Kill well w/2% KCL water. Install BOP. POH w/pkr.
2. Run TAC, SN, PN, and MA on 2-7/8" tbg, w/TS @ 6515', and TAC @ 6125'.
3. Run 1½ insert pump on "76" rod taper.
4. Set 114D pumping unit and POP @ 8 X 54 X 1½.
5. Recover load. Test and repotential.

Recommended allocation formula:

All liquids to Drinkard  
Drinkard Gas @ 5000 GOR  
Remaining gas to Tubb

	<b>SUN OIL COMPANY</b>
	DALLAS REGION
	<del>SUNBELT</del> DRINKARD & TUBB POOLS
	WILEY COUNTY, NEW MEXICO
	PROPOSED PROCEDURE
	RECOMMENDED ALLOCATION FORMULA
	Nov. 16, 1977 Case No. 6083 Ex. No. 11

Dockets Nos. 38-77 and 39-77 are tentatively set for hearing on November 30 and December 14, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - NOVEMBER 16, 1977

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

**ALLOWABLE:** (1) Consideration of the allowable production of gas for December, 1977, from fifteen prorated pools in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico.

(2) Consideration of the allowable production of gas for December, 1977, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

**CASE 6079:** Application of Dome Petroleum Corporation for a non-standard oil proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 80-acre non-standard oil proration unit comprising the E/2 SW/4 of Section 10, Township 26 North, Range 14 West, Bisti-Lower Gallup Pool, San Juan County, New Mexico.

**CASE 6059:** (Continued from October 12, 1977, Examiner Hearing)

Application of Dome Petroleum Corporation for pool creation, an oil discovery allowable, and a special depth bracket allowable, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the Leggs-Entrada Oil Pool in Section 11, Township 21 North, Range 10 West, San Juan County, New Mexico, the assignment of approximately 27,020 barrels of oil discovery allowable to its Santa Fe-Leggs Well No. 1 located in Unit O of said Section 11, and the establishment of a special depth bracket allowable of 750 barrels of oil per day for said pool.

**CASE 6080:** Application of Orla Petco, Inc., for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its R. K. Williams Well No. 1 to be located 1980 feet from the South line and 660 feet from the West line of Section 8, Township 19 South, Range 26 East, Eddy County, New Mexico, the S/2 of said Section 8 to be dedicated to the well.

**CASE 6081:** Application of Atlantic Richfield Company for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the directional drilling in a northwesterly direction of its Lanehart 22 Well No. 1 from a surface location 660 feet from the North and West lines of Section 22, Township 25 South, Range 37 East, Langlie-Mattix Pool, Lea County, New Mexico, bottoming said well no closer than 280 feet from the North and West lines of said Section 22.

**CASE 6082:** Application of Gulf Oil Corporation for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for its Sand Well Unit Area comprising 3843 acres, more or less, of State, Federal, and fee lands in Township 23 South, Range 35 East, Lea County, New Mexico.

**CASE 6083:** Application of Sun Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Drinkard and Tubb production in the wellbore of its State 15 Well No. 4 located in Unit P of Section 16, Township 21 South, Range 37 East, Lea County, New Mexico.

**CASE 6084:** Application of Freeport Oil Company for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance in the West Garrett-Devonian Pool by the injection of water into the Devonian formation through its Mattie Price Well No. 4 located in Unit O of Section 6, Township 17 South, Range 38 East, Lea County, New Mexico.

**CASE 6085:** Application of Reserve Oil, Inc., for downhole commingling or pool contraction and extension, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Jalmat and Langlie-Mattix production in the wellbore of its Cooper Jal Unit Wells No. 115 in Unit P of Section 13 and Nos. 121, 134, and 209 in Units B, N, and L of Section 24, Township 24 South, Range 36 East, and No. 117 in Unit N of Section 18, and Nos. 150 and 221 in Units L and N of Section 19, Township 24 South, Range 37 East, Lea County, New Mexico, and an administrative procedure for such approval for future wells. In the alternative, applicant seeks the contraction of the vertical limits of the Jalmat Gas Pool underlying said Cooper Jal Unit Area by the deletion of the Yates and Seven Rivers formations therefrom and the extension of the vertical limits of the Langlie-Mattix Pool to include said formations.

Case 6083

JASON W. KELLAHIN  
ROBERT E. FOX  
W. THOMAS KELLAHIN

KELLAHIN and FOX  
ATTORNEYS AT LAW  
800 DON GASPAR AVENUE  
P. O. BOX 1788  
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315  
AREA CODE 505

October 26, 1977

Mr. Dan Nutter  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Re: Sun Oil Company

Dear Dan:

Please set the enclosed application for hearing on  
November 16, 1977.

Very truly yours,

  
W. Thomas Kellahin

WTK:kfm

Enclosure

Application of Sun Oil Company for  
downhole commingling, Lea County, N.M.

Applicant in the above-styled  
cause seeks approval for the downhole  
commingling of Brinkard and Subb  
production <sup>in</sup> the wellbore of its  
State 15 Well No. 4 located in  
Unit P of Section 16, T 21S, R 37E,  
Lea County, N.M.

Rec'd by phone 10-26-77.  
LS

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. 6083

Order No. R- 5588

APPLICATION OF SUN OIL COMPANY  
FOR DOWNHOLE COMMINGLING, LEA  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 16,  
19 77, at Santa Fe, New Mexico, before Examiner Richard L. Stamets

NOW, on this        day of November, 19 77, 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, Sun Oil Company, is the  
owner and operator of the State 15 Well No. 4, located  
in Unit P of Section 16, Township 21 South, Range  
37 East, NMPM, Lea County, New Mexico.

(3) That the applicant seeks authority to commingle  
Drinkard and Tubb production  
within the wellbore of the above-described well.

(4) That from the Drinkard zone, the  
subject well is capable of low marginal production only.

(5) That from the Tubb zone, the  
subject well is capable of low marginal production only.

(6) That the proposed commingling may result in the recovery  
of additional hydrocarbons from each of the subject pools, thereby  
preventing waste, and will not violate correlative rights.

Case No. 6083  
Order No. R-           

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Hobbs district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Hobbs District Office of the Commission and determine an allocation formula for each of the production zones.

to the Drinkard            percent of the commingled            production to the Tubb zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sun Oil Company, is hereby authorized to commingle Drinkard and Tubb production within the wellbore of the State 15 Well No. 4, located in Unit p of Section 16, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Hobbs District Office of the Commission and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

           production shall be allocated to the Tubb zone.

(3) That the operator of the subject well shall immediately notify the Commission's Hobbs district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

(4) 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.