

CASE 5968: SUN OIL COMPANY FOR
DOWNHOLE COMMINGLING, LEA COUNTY,
NEW MEXICO

Case Number

5968

Application

Transcripts.

Small Exhibits

ETC.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

September 29, 1977

C
O
P
Y
Sun Production Company
P. O. Box 1861
Midland, Texas 79702

Attention: Mr. S. A. Gillett

Re: NMOCC Case No. 5968
Order No. R-5482
Downhole Commingling
Sun Oil Co. Elliott A
Well No. 2-H, 21-21S-37E
Lea County

Dear Mr. Gillett:

Modification of initial downhole equipment in the
subject well to provide for artificial lift is hereby
approved.

Yours very truly,

JOE D. RAMEY
Director

JDR/RLS/fd



MIDLAND PRODUCTION DISTRICT

SUN PRODUCTION COMPANY 901 W. WALL, POST OFFICE BOX 1861, MIDLAND, TEXAS 79702 (915) 682-8271

September 20, 1977

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

Attn: Mr. Richard L. Stamets

Re: NMOCC Case No. 5968; Order No. R-5482
Downhole Commingling Sun Oil Co.
E. Elliott -A- #2, Unit H, 21-21S-37E
Lea Co., New Mexico

Dear Mr. Stamets:

Pursuant to our phone conversation of September 19, 1977, Sun Oil Co. requests a modification in the commingling application and subsequent order noted above.

The original request was in anticipation that the Drinkard (Lower) Zone would flow (see attached Exhibit #3). The planned completion, therefore, was to produce under a packer with tailpipe to within 100' of the Drinkard perms. Further investigation of the subject well and other wells in the immediate vicinity indicates that artificial lift will be required to properly produce the Lower Drinkard Zone.

It is therefore requested that administrative approval be given to modify the downhole mechanical arrangement as diagrammed in attached Exhibit #10, so that fluid may be lifted by conventional sucker rod pumping.

This revision will not alter any data presented during testimony on June 22, 1977; and will, in fact, further reduce the possibility of crossflow between the Drinkard and Tubb Reservoirs.

Yours very truly,


S. A. Gillett
Sun Oil Company

SAG/nc
Attachment
cc: J. T. Power
C. L. Dickson
W. R. Thomas

JTP	
MAL	
JTN	
DOT	
DAK	
File	

A DIVISION OF SUN OIL COMPANY (DELAWARE)

E. ELLIOTT A- #2
WELL

DRINKARD - TUGB
FIELD

6-14-77
DATE S76

☐ PRESENT COMPLETION

☒ SUGGESTED COMPLETION

EL: 3449-DF ←
3439-GL

☐ ORIGINAL COMP.

WELL CLASS. Completed

PERMANENT WELL BORE DATA

17 1/4" hole
13 3/8" @ 320' w/ 300SX (CIRG)
12 1/2" hole

CALC TDC 9 7/8" hole @ SURF.
9 7/8" 32436' @ 2847' w/ 1000SX
8 5/8" hole

2 3/8" 4.7" 5-55 @ 6100' w/ BAKER
RDG PACKER

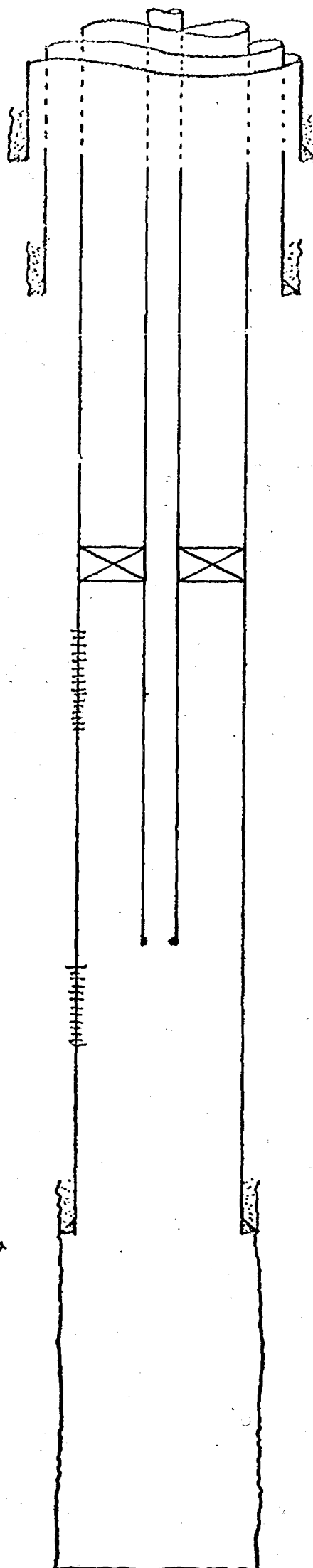
TUGB PERFS: 6150-78, 6202-32,
6245-67 4SPF; 320 holes

DRINKARD PERFS: (GAS)
1 SHOT @ 6417, 23, 35, 38, 43, 47, 52,
55, 60, 62, 66, 70, 72, 75, 80, 86, 90,
92; 18 holes

CALC TDC 7" hole @ 2450'
7", 23" 5-55 1N-80 @ 6515' w/ 500SX

8 5/8" OH: 6515-6635 (120')
[DRINKARD OIL]

TD-6635'



DATA ON THIS COMPLETION

EXHIBIT #3

ORIGINAL PROPOSED
COMPLETION

WELL COMPLETION SKETCHES
5077-2641-A

E. ELLIOTT - A - #2
WELL

DRINKARD - TUBB
FIELD

6-14-77
DATE 596

- ☐ PRESENT COMPLETION
☒ SUGGESTED COMPLETION

☐ ORIGINAL COMP.

PERMANENT WELL BORE DATA

17 1/4" hole
13 3/8" @ 320' w/ 300SX (C180)
12 1/2" hole

CASE TOC 9 7/8" hole @ SURF.
9 5/8" 32136# @ 2847' w/ 1000SX
8 5/8" hole

TUBB PERFS: 6150-78, 6202-32,
6245-67 4SPF; 320 holes

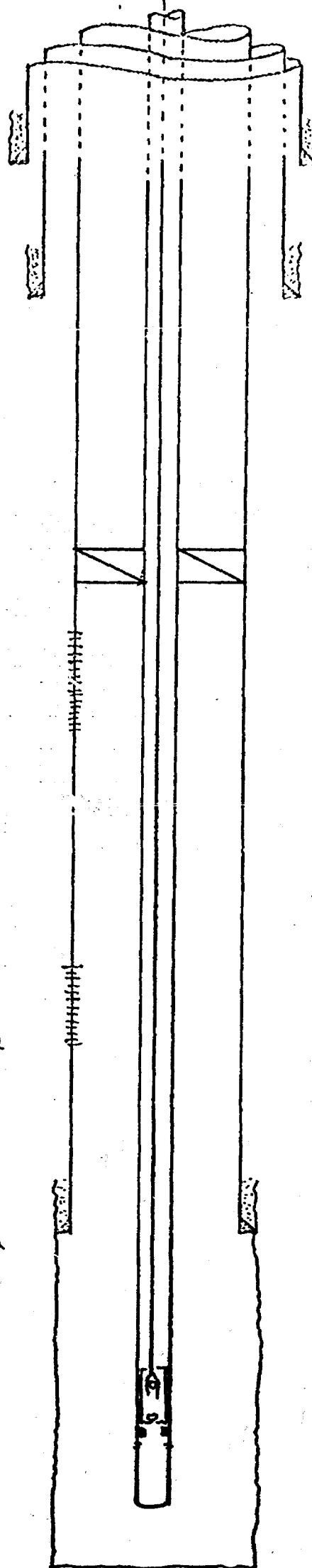
DRINKARD PERFS: (GAS)
1 SHOT @ 6412, 23, 35, 38, 43, 47, 52,
55, 60, 62, 66, 70, 72, 75, 80, 86, 90, 92
(18 holes

CASE TOC 7" hole @ 2450'
2, 23, 55, 91N-80, @ 6515' w/ 500SX

8 5/8" OH: 6515-6635 (120')
[DRINKARD OIL]

T.D.-6635'

EL: 3449-DF ←
3439-GL



WELL CLASS.

DATA ON THIS COMPLETION

EXHIBIT #10

REVISED PROPOSED
COMPLETION

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 22, 1977

EXAMINER HEARING

IN THE MATTER OF:

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

CASE
5968

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:

W. Thomas Kellahin, Esq.
KELLAHIN & FOX
Attorneys at Law
500 Don Gaspar
Santa Fe, New Mexico

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General Court Reporting Service
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Phone (505) 982-9212

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5	<u>STEPHEN A. GILLET</u>	
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EXHIBIT INDEX

	<u>Offered</u>	<u>Admitted</u>
13 Sun Exhibit One, Plat	4	14
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16 Sun Exhibit Four, Decline Curve	7	14
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1 MR. STAMETS: We will call next Case 5968.

2 MS. TESCHENDORF: Case 5968, application of Sun Oil
3 Company for downhole commingling, Lea County, New Mexico.

4 MR. KELLAHIN: I'm Tom Kellahin of Kellahin and Fox,
5 Santa Fe, New Mexico appearing on behalf of the applicant and
6 I have two witnesses to be sworn.

7 MR. STAMETS: Will you stand and be sworn, please?

8 (THEREUPON, the witnesses were duly sworn.)

9
10 KENNETH W. LARSON

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

13
14 DIRECT EXAMINATION

15 BY MR. KELLAHIN:

16 Q Please state your name, by whom you are employed and
17 in what capacity?

18 A Kenneth W. Larson, Staff Professional Geologist,
19 Sun Production Company, Dallas Production Region, Dallas,
20 Texas.

21 Q Mr. Larson, have you previously testified before the
22 Commission as an expert geologist and had your qualifications
23 accepted and made a matter of record?

24 A Yes, I have.

25 MR. KELLAHIN: Are the witness' qualifications

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1 acceptable?

2 MR. STAMETS: They are.

3 (Mr. Kellahin continuing.) Mr. Larson, would you
4 refer to what has been marked as Exhibit Number One, identify
5 it and tell us what Sun is seeking to accomplish?

6 A. Geologic Exhibit Number One is a well completion plat
7 of a portion of the Tubb and Drinkard fields, Lea County,
8 New Mexico. The area lies within 21 South, 37 East. The scale
9 of the map is one inch equals five hundred feet. For clarifica-
10 tion purposes the map is color coded. The current Tubb
11 producers are coded in red while the Drinkard are coded in blue
12 Those wells in the field not color coded are producing from
13 other formations.

14 The Sun Production Company request involves only
15 the Tubb and Drinkard zones. The color coding was necessar-
16 ily limited to these two pools.

17 In the northeast quarter of Section 21, T 21 South,
18 Range 37 East, Sun's eighty acre lease is outlined by hachures
19 and the red arrow identifies the Sun Production Company No. 2-A
20 Elliott. This is a well for which Sun Oil Company is seeking
21 approval for downhole commingling of the Tubb and Drinkard
22 production.

23 That portion of the Elliott 2-A gamma ray neutron log
24 embracing the above described producing zones is shown on the
25 right-hand portion of the map. The tops of the Tubb and

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1 Drinkard as well as the color coded perforated intervals are
2 posted on the log.

3 This well is currently producing as a dual Tubb-
4 Drinkard completion. Sun Oil Company's request to commingle
5 these two zones is necessitated by economics, the details of
6 which will be presented by Mr. Steve Gillett, Sun's
7 engineering witness.

8 MR. KELLAHIN: If the Examiner please, that concludes
9 the testimony from my geologist. I do have another witness
10 who will talk about the engineering.

11 MR. STAMETS: Any questions of this witness? He
12 may be excused.

13 (THEREUPON, the witness was excused.)
14

15 STEPHEN A. GILLETT

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

18
19 DIRECT EXAMINATION

20 BY MR. KELLAHIN:

21 Q Would you please state your name, by whom you are
22 employed and in what capacity?

23 A Stephen A. Gillett, I'm employed by Sun Oil Company
24 as a petroleum engineer.

25 Q Mr. Gillett, have you previously testified before

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1 the Commission?

2 A. No, sir, I have not.

3 Q. Would you explain to the Examiner when and where you
 4 obtained your degree?

5 A. I have a degree in engineering from Purdue University
 6 in 1970.

7 Q. And since obtaining your degree where have you been
 8 employed and in what capacity?

9 A. I have been employed by Sun Oil Company since I
 10 obtained my degree in 1970 as a petroleum engineer.

11 Q. Have you made a study of and are you familiar with
 12 the facts surrounding this particular application?

13 A. Yes, sir, I am.

14 MR. KELLAHIN: If the Examiner please, are the
 15 witness' qualifications acceptable?

16 MR. STAMETS: What was the engineering degree in?

17 A. It was in industrial engineering. That makes you
 18 able to do everything.

19 MR. STAMETS: Yes, the witness is considered
 20 qualified.

21 Q. (Mr. Kellahin continuing.) Would you please refer
 22 to Exhibit Number Two and identify it?

23 A. Exhibit Number Two is the present wellbore completion
 24 sketch showing all packers, bridge plugs, perforations and
 25 open-hole sections in the well.

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- 1 Q How is the Tubb zone produced?
- 2 A The Tubb zone is now produced up the casing tubing
- 3 annulus.
- 4 Q In the Drinkard?
- 5 A The Upper Drinkard perforations are produced up the
- 6 tubing below a packer.
- 7 Q All right. Please refer to Exhibit Number Three and
- 8 identify it?
- 9 A Exhibit Number Three is the proposed completion that
- 10 we would like to obtain on the subject well.
- 11 Q When was this well first drilled?
- 12 A This well was drilled in 1947 as an open-hole
- 13 completion in the Drinkard. Subsequently in 1954 it was dualled
- 14 as a dual Drinkard-Tubb under Commission Order Number DC-77,
- 15 dated March 8, 1954.
- 16 Q Okay.
- 17 MR. STAMETS: What was that number, please?
- 18 MR. KELLAHIN: DC-77.
- 19 Q (Mr. Kellahin continuing.) Please refer to Exhibit
- 20 Number Four and identify it?
- 21 A Exhibit Number Four is a decline curve showing the
- 22 production over the past several years from the Drinkard zone.
- 23 The well was recompleted from the Drinkard in the first quarter
- 24 of 1975. The production prior to that time was from the open-
- 25 hole section. During that time in the first quarter of '75 a

1 bridge plug was set and perforations were opened in the upper
2 area of the Drinkard in what is considered the gas area and
3 production has been from that zone since that date.

4 Q Your exhibit shows no production after September of
5 '76, is that correct?

6 A That is correct but we have gotten additional test
7 data since that date.

8 Q What accounts for the lack of production?

9 A Sir?

10 Q What have you done, is that zone shut in?

11 A No, sir it is producing in the Drinkard and the
12 latest test was March 5th, 1977 and it's six barrels of oil,
13 one barrel of water and a hundred and thirty-one MCF.

14 Q Just a minute, say it again?

15 A Six barrels of oil, one barrel of water, one hundred
16 and thirty-one MCF of gas.

17 Q And that test was taken when?

18 A March 5th, 1977.

19 Q Please continue. Would you please look at Exhibit
20 Number Five and identify it?

21 A Exhibit Number Five is a similar graph showing
22 production from the Tubb formation in the subject well.

23 Q Okay, what is the current production on the Tubb
24 zone?

25 A The latest test as is spotted on this graph is seventy-

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1 two MCF per day, no fluid, and that test is dated January 14th,
2 1977.

3 Q Are you currently producing the Tubb zone?

4 A The Tubb zone is open to produce, the amount of
5 volume that is being metered and sold is negligible if in
6 existence at all.

7 Q Why?

8 A We have a problem with our gas gatherer in that
9 their gathering system pressure is at a hundred pounds and
10 this completion will not deliver at a surface pressure that
11 high and we have been informed by the gatherer that they are
12 not able to lower that pressure.

13 Q Does the Tubb zone make any liquid?

14 A It makes very minimal liquid as you can see from the
15 graph, on the order of one barrel of fluid per day.

16 Q Do you know what the GOR ratio is for this zone?

17 A The GOR that we have experienced over the twenty-
18 three years of production is on the order of fifty thousand to
19 one. The cumulative production from the Tubb is one point
20 seven billion cubic feet of gas and thirty-three thousand seven
21 hundred barrels of condensate.

22 Q Sun's application to commingle the zones, the Tubb
23 and Drinkard zones, what effect will this have on production?

24 A This should significantly increase our gas production
25 and quite possibly, we hope, increase our liquid production

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1 from the Drinkard.

2 Q If your application is not approved what effect will
3 it have on the well?

4 A In effect it will eliminate the possibility of
5 production of the Tubb gas.

6 Q Please refer to Exhibit Number Six and identify it?

7 A Exhibit Number Six is a tabulation of some recent
8 production test data from Sun operated properties in the
9 immediate vicinity of the subject well.

10 Q What pressure information do you have on the
11 Drinkard?

12 A That's over in Exhibit Number Nine.

13 Q All right, we'll get to it in a minute. Let's refer
14 to Exhibit Number Seven.

15 A All right, Exhibit Number Seven is a similar tabula-
16 tion of production from offset wells and wells in the
17 immediate vicinity of the subject well that are in the Drinkard
18 Pool or operated by other producers.

19 Q Do you know where the closest Tubb-Drinkard downhole
20 commingling well is, are there any others?

21 A No, sir, I don't as far as commingled. It shows
22 the duals on this map but I don't believe it specifies
23 whether they are commingled downhole or not.

24 Q All right. Please refer to Exhibit Number Eight and
25 identify it?

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1 A. Exhibit Number Eight is another tabulation of similar
2 nature showing recent test data that we have been able to
3 obtain from offset operators in the immediate area in the Tubb
4 gas.

5 Q. These are wells not operated by Sun?

6 A. This is correct.

7 Q. Identify Exhibit Number Nine?

8 A. Exhibit Number Nine is some pressure data on the
9 Drinkard and Tubb zones obtained on wells in the immediate
10 vicinity. As you can see by this exhibit, the pressure informa-
11 tion we have was over a very wide range, pressures ranging in
12 the Drinkard zone from a high of five hundred and fifty
13 pounds to a low of sixty-eight pounds and on the Tubb zone a
14 similar situation occurs where we have pressures in excess of
15 seven hundred and seventy some pounds and falling as low as
16 in some cases of seventy-five pounds.

17 Q. On the Tubb zone you do have a test in the subject
18 well, the Elliott A?

19 A. We have a test in the Drinkard on the subject well
20 dated November 19th, 1975, it's a forty-eight hour shut-in
21 pressure of four hundred and eighty-four pounds. I'm sorry,
22 I didn't get it on this exhibit.

23 Q. All right, that's on the Drinkard?

24 A. Yes, sir, on the Drinkard.

25 Q. And what's that test?

1 A. It is a forty-eight hour bottom hole and it is four
2 hundred and eighty-four pounds. Let me give you the datum on
3 that. That is at a datum point of sixty-four ninety-nine.

4 Q And that was taken on November 19th, 1975?

5 A. Yes, sir.

6 Q And that's your latest test on the Drinkard?

7 A. Yes, sir.

8 Q All right, now, about the Tubb formation, what's
9 your pressure on the Tubb?

10 A. We do not have a bottom-hole pressure on the Tubb but
11 we can estimate it based on -- we have a gas gradient -- maybe
12 we do, we sure do.

13 Q All right, if you will look at the Exhibit under
14 "Tubb", there is an entry that says "Elliott A-2 Well", that
15 is the subject well, right?

16 A. Yes, sir.

17 Q All right, now, what's that test?

18 A. That is a seventy-one hour shut-in taken April 23rd,
19 1976 at three hundred and ninety-one pounds.

20 Q All right, now, there is some pressure differential
21 between the two zones, in your opinion is the differential
22 significant enough to cause cross flow between the two zones
23 or damage either formation?

24 A. No, sir, it is not.

25 Q How do you propose to allocate production between the

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1 zones if the order is approved?

2 A. Our experience and tests in the area have shown
3 that liquid production from the Tubb is very minimal. We
4 would propose that one barrel of condensate a day be allocated
5 to the Tubb and the remaining fluids be allocated to the
6 Drinkard.

7 Q. Just a minute, let me get that down, say it again.

8 A. One barrel of liquid be allocated to the Tubb and
9 the remaining liquid be allocated to the Drinkard.

10 Q. All right.

11 A. As far as the gas, our experience in this particular
12 well shows that we have a GOR in the Drinkard over the past
13 thirty years of a little over five thousand GOR, right at
14 five thousand GOR so we would recommend that the gas be
15 allocated at a GOR of five thousand based on the Drinkard oil
16 and the remaining gas go to the Tubb.

17 Q. Say it again slow.

18 A. We have established the Drinkard liquids and the
19 associated gas would be calculated at five thousand to one
20 GOR and all additional gas would be Tubb gas.

21 Q. Okay. Mr. Gillett, is the ownership between the
22 two producing formations identical for this well?

23 A. Yes, sir, it is.

24 Q. Were Exhibits Two through Nine either prepared by
25 you directly or under your direction and supervision?

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1 A. Yes, sir, they were.

2 Q. In your opinion, Mr. Gillett, will approval of this
 3 application be in the best interests of conservation, the
 4 prevention of waste and the protection of correlative rights?

5 A. Yes, sir, it will.

6 MR. KELLAHIN: If the Examiner please, we move the
 7 introduction of Exhibits One through Nine.

8 MR. STAMETS: These exhibits will be admitted.

9 (THEREUPON, Sun's Exhibits One through
 10 Nine were admitted into evidence.)

11 MR. KELLAHIN: That concludes our direct examination.

12
 13 CROSS EXAMINATION

14 BY MR. STAMETS:

15 Q. Mr. Gillett, referring back to Exhibit Number Three,
 16 where will the tubing be set, where will the bottom of the
 17 tubing be?

18 A. The bottom of the tubing, we will not have any sort
 19 of stinger below the packer and it would probably be set
 20 within a hundred foot of the perforations so somewhere around
 21 six thousand fifty feet.

22 Q. Okay, now, I didn't write it down, I was doing some-
 23 thing else at the time and I know you repeated it once, I
 24 would like to have the production from the Drinkard again?

25 A. All right, the Drinkard, the test dated March 5th,

1 1977, six barrels of oil, one barrel of water and one hundred
2 and thirty-one MCF.

3 Q Okay, so you have got about three hundred feet
4 between the base of your tubing and the topmost Drinkard
5 perforations, how are you ever going to get this oil out of
6 that hole with that much more or less open hole?

7 A Well, the well flows now, the well was a flowing
8 well in the open hole section and is currently a flowing well
9 up the tubing and there is no reason to believe that it won't
10 continue to flow. In fact, the addition of gas at the Tubb
11 level would in effect act as a natural gas lift to enhance the
12 flow and would probably increase the production.

13 Q Well, your new proposal would appear to add about
14 two hundred feet of casing flow to the Drinkard zone that you
15 don't currently have?

16 A Yes, sir.

17 Q Wouldn't that additional liquid head on there tend
18 to slow your production down?

19 A Well, head is a per surface area type of measure-
20 ment so it shouldn't hurt too much at all, it shouldn't hurt
21 at all. You are going to have gas in there, it's going to
22 lighten your fluid column and once you get it kicked off there
23 should be no problem at all. I can see no problems.

24 Q Wouldn't you have an easier time lifting that oil
25 if the tubing were set down closer to the Drinkard perforations?

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1 A. It could possibly, yes. Are you advocating a stinger
2 out of the base of the tubing, is that it?

3 Q. I would, yes.

4 A. Fine.

5 Q. I would think that tubing set much closer to the
6 Drinkard perforations would be much better?

7 A. Fine.

8 Q. Now, this formula is certainly one of the most
9 interesting ones I have heard over a considerable period of
10 time and I would assume since you recommended this that you
11 are not the one who will be making out the production reports
12 monthly? I wonder perhaps if based on historical production
13 on the anticipated production, you might come up with something
14 which would simply divide the production on a percentage
15 basis between the two zones?

16 A. Well, on the gas we really don't have any what I
17 would consider adequate draw-down data, we don't have a pi that
18 I could come along and say, given that we have a certain
19 surface pressure that we are going to have a certain delivera-
20 bility from the Tubb. We do know -- the reason this allocation
21 formula was proposed, we do know that the liquids in the most
22 part come from the Drinkard and we know that by opening up the
23 open-hole section we will increase the liquid production and
24 it will all be from the Drinkard. We do have some GOR's that
25 we could use to allocate. In every case we know that the Tubb

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1 is exclusively gas but we don't know how much additional gas we
2 will be getting from the Tubb and that's the reason for that.
3 We are certainly open for any suggestions.

4 Q Let me suggest that we use our other alternative but
5 subsequent to the recompletion of the well that you get together
6 with the District Supervisor at Hobbs and work out a formula
7 which could be submitted.

8 A That would be fine.

9 MR. STAMETS: Anything further in this case? The
10 case will be taken under advisement.

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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 complete record of the proceedings in
the Examiner hearing of Case No. 5968.
heard by me on 6-27-77 1977
Richard H. Stamm 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. 5968
Order No. R-5482

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 June 22, 1977, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 28th day of June, 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 Elliott A Well No. 2 located in Unit H of Section 21, 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 rates of production only.

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

(6) That the production tubing should be set within 100 feet of the Drinkard perforations.

-2-

Case No. 5968
Order No. R-5482

(7) 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.

(8) 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.

(9) 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.

(10) That in order to allocate the commingled production to each of the commingled zones in said well, 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.

(11) That Commission Administrative Order No. DC-77, which previously authorized the dual completion of said well, should be superseded.

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 Elliott A Well No. 2 located in Unit H of Section 21, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

PROVIDED HOWEVER, that production tubing shall be set within 100 feet of the Drinkard perforations.

(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 the subject well.

(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.

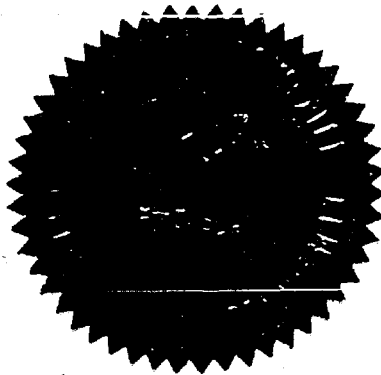
(4) That Commission Administrative Order No. DC-77 is hereby superseded.

-3-
Case No. 5968
Order No. R-5482

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



Phil R. Lucero
PHIL R. LUCERO, Chairman

Emery C. Arnold
EMERY C. ARNOLD, Member

Joe D. Ramey
JOE D. RAMEY, Member & Secretary

S E A L

dr/

NEW MEXICO OIL CONSERVATION COMMISSION

DRINKARD AND TUBB FIELDS

LEA COUNTY, NEW MEXICO

CASE NUMBER 5968

JUNE 22, 1977

WELL COMPLETION SKETCHES
SUN-5541-A

E. ELLIOTT - A - #2
WELL

DRINKARD - TUBB
FIELD

6-14-77
DATE 596

☒ PRESENT COMPLETION
☐ SUGGESTED COMPLETION

☐ ORIGINAL COMP.

WELL CLASS DUAL TUBE/DRINKARD

PERMANENT WELL BORE DATA

17 1/4" hole
13 3/8" @ 320' w/ 300SX (C.S.R.)
12 1/2" hole

CALC TOC 9 7/8" hole @ SURF.
9 5/8", 32136' @ 2847' w/ 1000SX
8 5/8" hole

TUBB PERFS: 6150-78, 6202-32,
6245-67 4SPF; 320 holes

2 3/8", 47' J-55 @ 6318' w/ 5N @ 6275'
GOT CIRC VALVE @ 6304' ROD
PACKER @ 6307', FRET HEAD @ 6315'

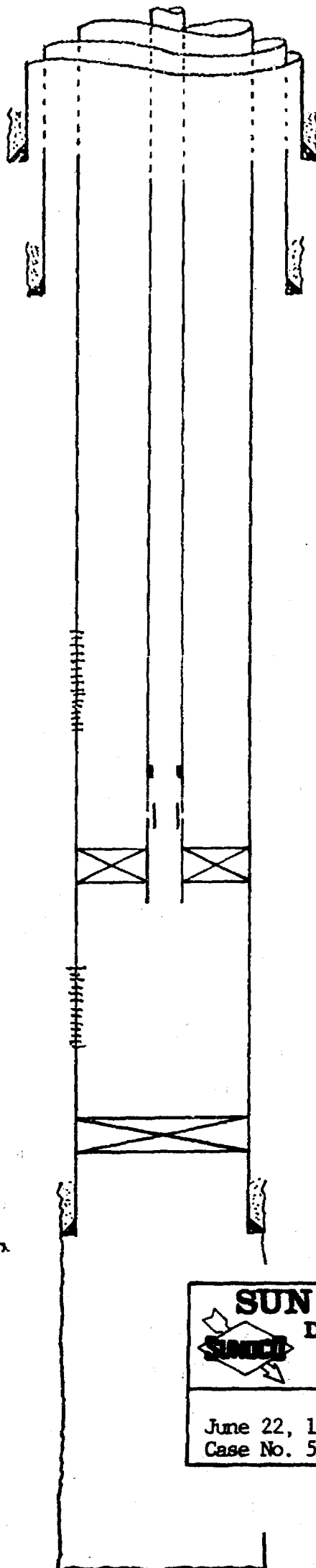
DRINKARD PERFS: (GMS)
1 SHOT @ 6417, 23, 35, 38, 43, 47, 52,
55, 60, 62, 66, 70, 72, 75, 80, 86, 90,
92; 18 holes

RBP @ 6505'

CALC TOC 7" hole @ 2450'
7", 23' J-55 IN-80, @ 6515' w/ 500SX

8 5/8" OH: 6515-6635 (120')
[DRINKARD OIL]

TD-6635'



DATA ON THIS COMPLETION

SUN OIL COMPANY	
DALLAS REGION	
DRINKARD & TUBB FIELDS	
LEA COUNTY, NEW MEXICO	
PRESENT COMPLETION	
June 22, 1977	Ex. No. 2
Case No. 5968	

WELL COMPLETION SKETCHES
SUN-6641-A

E. ELLIOTT - A - #2
WELL

DRINKARD - TUBB
FIELD

6-14-77
DATE SAG

- ☐ PRESENT COMPLETION
☒ SUGGESTED COMPLETION

☐ ORIGINAL COMP.

WELL CLASS. Completion

PERMANENT WELL BORE DATA

17 1/4" hole
13 3/8" @ 320' w/ 300sx (c.s.r.)
12 1/2" hole

CALC TOP 9 5/8" hole @ SURF.
9 5/8", 32136' @ 2847' w/ 1000sx
8 5/8" hole

2 3/8", 4.7", J-55 @ 6100' w/ BAKER
RDG PACKER

TUBB PERFS: 6150-78, 6202-32,
6245-67 4SPF; 320 holes

DRINKARD PERFS: (GAS)

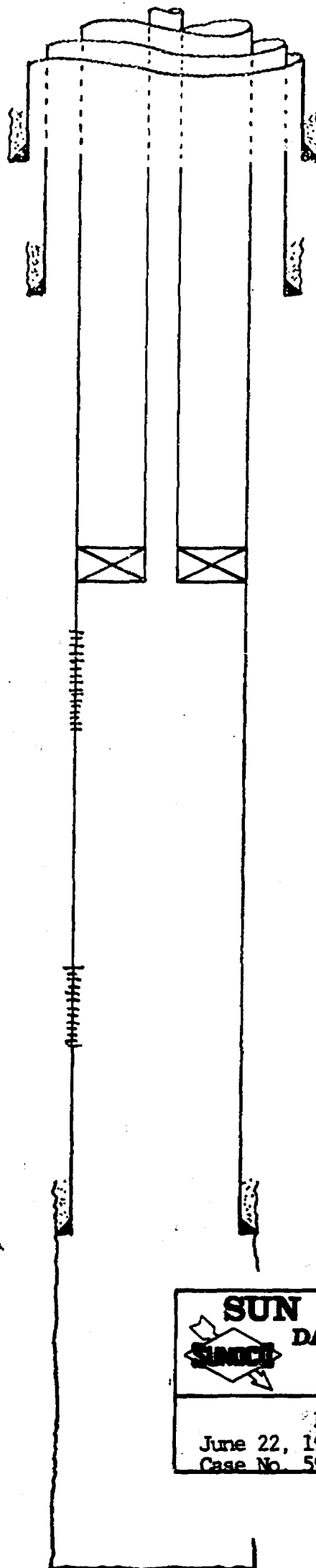
1 SHOT @ 6417, 23, 35, 38, 43, 47, 53,
55, 60, 62, 66, 70, 72, 75, 80, 86, 90,
92; 18 holes

CALC TOP 7" hole @ 2450'
7", 23", J-55 IN-80, @ 6515' w/ 500sx

8 5/8" OH: 6515-6635 (120')
[DRINKARD OIL]

TD-6635'

EL: 3449-DF ←
3439-GL



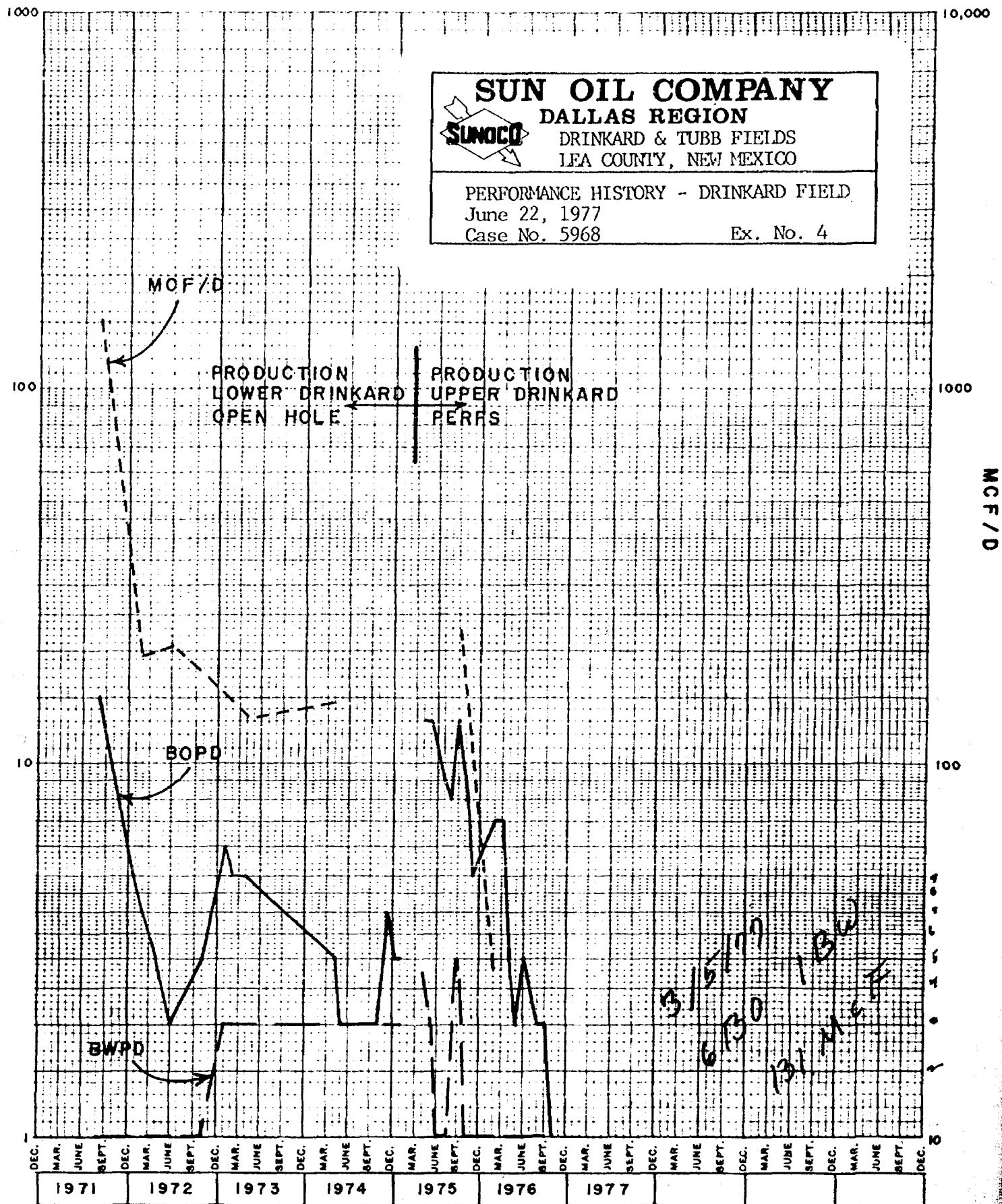
DATA ON THIS COMPLETION

SUN OIL COMPANY	
DALLAS REGION	
DRINKARD & TUBB FIELDS LEA COUNTY, NEW MEXICO	
PROPOSED COMPLETION	
June 22, 1977 Case No. 5968	Ex. No. 3

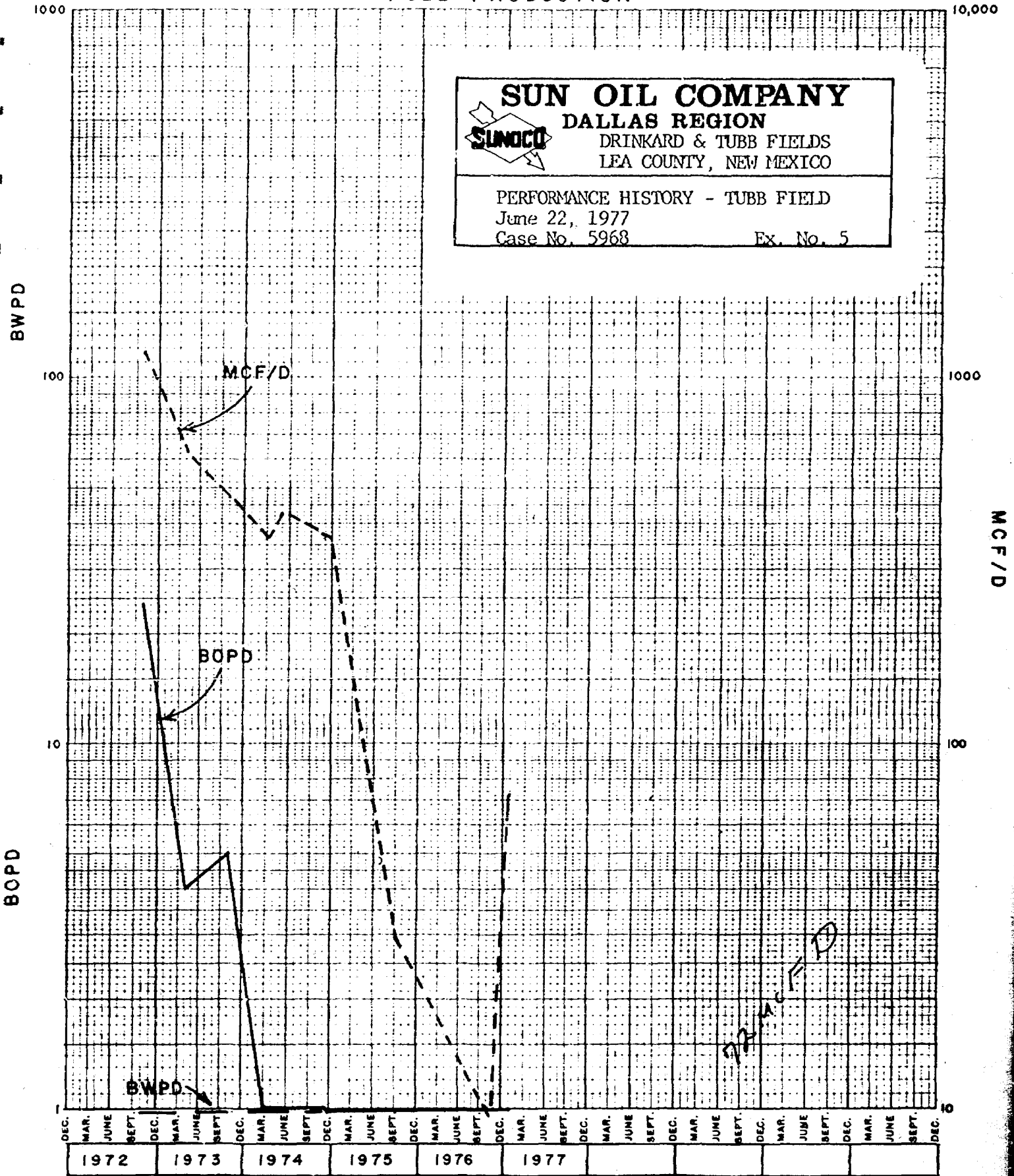
ELLIOTT "A" NO. 2-T
DRINKARD PRODUCTION

SUN OIL COMPANY
DALLAS REGION
DRINKARD & TUBB FIELDS
LEA COUNTY, NEW MEXICO

PERFORMANCE HISTORY - DRINKARD FIELD
June 22, 1977
Case No. 5968 Ex. No. 4




ELLIOTT "A" NO. 2-C
TUBB PRODUCTION



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

<u>ZONE AND WELL</u>	<u>BOPD</u>	<u>MCFPD</u>	<u>STATUS</u>	<u>LOCATION</u>
<u>DRINKARD</u>				
Elliott A #1	5	253	P	Sec. 21, T-21-S, R-37-E
State Land 15 #2	12	214	P	Sec. 16, T-21-S, R-37-E
State Land 15 #4	12	228	P	Sec. 16, T-21-S, R-37-E
State Land 15 #6	9	513	P	Sec. 16, T-21-S, R-37-E
<u>TUBB GAS</u>				
State Land 15 #4	-	266	P	Sec. 16, T-21-S, R-37-E

 SUN OIL COMPANY DALLAS REGION DRINKARD & TUBB FIELDS LEA COUNTY, NEW MEXICO	
PRODUCTION DATA	
June 22, 1977 Case No. 5968	Ex. No. 6

DRINKARD POOL
DAILY PRODUCTION DATA (OTHER OPERATORS)
(MARCH, 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	2	30	F	Sec. 16, T-21-S, R-37-E
State "DA" #3	2	322	FG	Sec. 16, T-21-S, R-37-E
State "DA" #4	2	374	FG	Sec. 16, T-21-S, R-37-E
<u>J.R. Cone</u>				
Anderson #2	2	319	FG	Sec. 21, T-21-S, R-37-E
<u>Continental Oil</u>				
M.E. Wantz #9	1	1	F	Sec. 21, T-21-S, R-37-E
M.E. Wantz #11		Shut In		Sec. 21, T-21-S, R-37-E
<u>Hunt Inc.</u>				
Weatherly #3	2	186	F	Sec. 21, T-21-S, R-37-E
Weatherly #4	5	406	F	Sec. 21, T-21-S, R-37-E
Weatherly #5	32	727	F	Sec. 21, T-21-S, R-37-E
Weatherly #6	7	98	F	Sec. 21, T-21-S, R-37-E
Weatherly #7	2	299	F	Sec. 21, T-21-S, R-37-E
<u>Shell Oil Company</u>				
Argo #1	7	330	F	Sec. 15, T-21-S, R-37-E
Argo #3	4	85	F	Sec. 15, T-21-S, R-37-E
Argo #5		TA		Sec. 15, T-21-S, R-37-E
Argo #6	8	267	F	Sec. 15, T-21-S, R-37-E
Argo #8	5	263	F	Sec. 15, T-21-S, R-37-E
Argo #10	10	477	F	Sec. 15, T-21-S, R-37-E
Argo A #3	7	201	F	Sec. 22, T-21-S, R-37-E
Argo A #4	7	326	F	Sec. 22, T-21-S, R-37-E
Argo A #8	6	307	F	Sec. 22, T-21-S, R-37-E
Argo A #12	3	293	F	Sec. 22, T-21-S, R-37-E
Turner #1	7	338	F	Sec. 22, T-21-S, R-37-E
Turner #2		TA		Sec. 22, T-21-S, R-37-E
Turner #3	6	147	F	Sec. 22, T-21-S, R-37-E
Turner #4	6	750	F	Sec. 22, T-21-S, R-37-E
Turner #5	5	205	F	Sec. 22, T-21-S, R-37-E
Turner #8	5	289	F	Sec. 22, T-21-S, R-37-E
Turner #12	7	328	G	Sec. 22, T-21-S, R-37-E
Turner #13	11	307	F	Sec. 22, T-21-S, R-37-E
Turner #15	2	356	G	Sec. 22, T-21-S, R-37-E


SUN OIL COMPANY
DALLAS REGION
 **DRINKARD & TUBB FIELDS**
LEA COUNTY, NEW MEXICO

PRODUCTION DATA
OFFSET OPERATORS - DRINKARD
June 22, 1977 Case No. 5968 Ex. No. 7

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

ZONE AND WELL	BOPD	MCFPD	STATUS	LOCATION
<u>Tubb Gas</u>				
<u>Amerada Hess</u>				
State "DA" #3	1	168		Sec. 16, T-21-S, R-37-E
<u>J.R. Cone</u>				
Anderson #1		TA		Sec. 21, T-21-S, R-37-E
<u>Continental Oil</u>				
M.E. Wantz #9	-	56		Sec. 21, T-21-S, R-37-E
<u>Hunt Inc.</u>				
Weatherly #1		Shut-In		Sec. 21, T-21-S, R-37-E
<u>Shell</u>				
Argo #5	3	1798		Sec. 21, T-21-S, R-37-E
Argo A #2	4	758		Sec. 22, T-21-S, R-37-E
Turner #2	-	561		Sec. 22, T-21-S, R-37-E
Turner #5	1	963		Sec. 22, T-21-S, R-37-E

SUN OIL COMPANY
DALLAS REGION


 DRINKARD & TUBB FIELDS
 LEA COUNTY, NEW MEXICO

PRODUCTION DATA
 OFFSET OPERATORS - TUBB
 June 22, 1977 Case No. 5968 Ex. No. 8


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
 Turner #12 22-21-37 (Shell)
 6/14/76 72 hrs. 281 psi
 Turner #15 22-21-37 (Shell)
 6/14/76 72 hrs. 296 psi
 State Land 15 #2 16-21-37 (Sun)
 9/25/75 550 psi

TUBB

State DA #3 16-21-37 (Amerada Hess)
 4/1/76 72 hrs. 772 psi
 Anderson #1 21-21-37 (Cone, J. R.)
 3/25/76 72 hrs. 300 psi
 M. E. Wantz #9 21-21-37 (Continental)
 6/14/76 72 hrs. 180 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
 Turner #2 22-21-37 (Shell)
 6/14/76 72 hrs. 280 psi
 Turner #5 22-21-37 (Shell)
 3/26/76 72 hrs. 539 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

SUN OIL COMPANY DALLAS REGION  DRINKARD & TUBB FIELDS LEA COUNTY, NEW MEXICO	
BOTTOMHOLE PRESSURE DATA June 22, 1977 Case No. 5968	
Ex. No. 9	

- CASE 5967: Application of Peleo Petroleum Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying all of Section 8 and in the other Pennsylvanian formations underlying the E/2 of said Section 8, Township 24 South, Range 35 East, Cinto Roja-Morrow Gas Pool, Lea County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 5968: 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 Elliott A Well No. 2 located in Unit H of Section 21, Township 21 South, Range 37 East, Lea County, New Mexico.
- CASE 5969: Application of Getty Oil Company for an exception to Rule 104(C), Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104(C) to permit its Mexico "L" Wells Nos. 3 and 24, located in Unit B of Section 5, Township 25 South, Range 38 East, Dollarhide-Fusselman Field, Lea County, New Mexico, to be located closer than 330 feet to each other.
- CASE 5952: (Continued from June 8, 1977, Examiner Hearing)
- Application of Rice Engineering & Operating, Inc., for amendment of Order No. R-5384, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-5384 to extend the injection interval in its Hobbs Salt Water Disposal Well No. 16 located in Unit P of Section 16, Township 19 South, Range 38 East, Lea County, New Mexico, to include the total open-hole section from 4176 feet to 10,008 feet.
- CASE 5954: (Continued from June 8, 1977, Examiner Hearing)
- Application of Caulkins Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Pictured Cliffs and Chacra production in the wellbore of its Breech Well No. 368 located in Unit I of Section 23, Township 26 North, Range 7 West, Rio Arriba County, New Mexico.
- CASE 5956: (Continued from June 8, 1977, Examiner Hearing)
- Application of Continental Oil Company for a non-standard proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 160-acre non-standard gas proration unit comprising the E/2 NE/4, NW/4 NE/4, and NE/4 SE/4 of Section 27, Township 20 South, Range 38 East, Warren-Tubb Gas Pool, Lea County, New Mexico, to be dedicated to its Warren Unit Well No. 42 located in Unit I of said Section 27.
- CASE 5970: Application of Texaco Inc., for statutory unitization, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order unitizing, for the purpose of pressure maintenance, all mineral interests in the Grayburg-San Andres formation underlying the following-described lands, Vacuum-Grayburg-San Andres Pool, Lea County, New Mexico:

TOWNSHIP 17 SOUTH, RANGE 34 EAST
Section 25: SE/4 NE/4 and S/2
Section 36: All

TOWNSHIP 17 SOUTH, RANGE 35 EAST
Section 30: All
Section 31: N/2, SW/4, and SW/4 SE/4

TOWNSHIP 18 SOUTH, RANGE 34 EAST
Section 12: N/2 NE/4

TOWNSHIP 18 SOUTH, RANGE 35 EAST
Section 6: All
Section 7: NW/4 and NW/4 NE/4

Among the matters to be considered at the hearing will be the necessity of unit operations; the designation of a unit operator; the determination of the horizontal and vertical limits of the unit area; the determination of a fair, reasonable, and equitable allocation of production and costs of production, including capital investment, to each of the various tracts in the unit area; the determination of credits and charges to be made among the various owners in the unit area for their investment in wells and equipment; and such other matters as may be necessary and appropriate for carrying on efficient unit operations, including, but not-necessarily limited to, unit voting procedures, selection, removal, or substitution of unit operator, and time of commencement and termination of unit operations.

Case 5968

RECEIVED
MAY 20 1977
OIL CONSERVATION COMMISSION

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

KELLAHIN AND FOX
ATTORNEYS AT LAW
500 DON GASPAR AVENUE
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

May 19, 1977

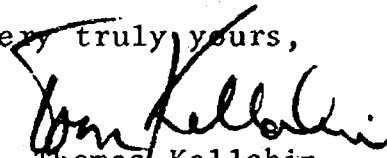
Mr. Joe D. Ramey
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

Enclosed is the application of Sun Oil Company for approval of down-hole commingling of production, Lea County, New Mexico.

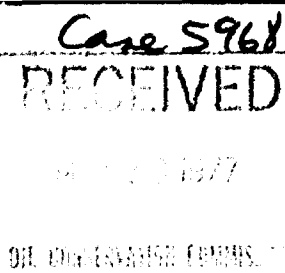
It is requested that this application be set for hearing on June 8, 1977.

Very truly yours,


W. Thomas Kellahin

CC: Mr. J. T. Powers
WTK:kfm

Enclosure



BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

IN THE MATTER OF THE APPLICATION
OF SUN OIL COMPANY FOR APPROVAL
OF DOWN-HOLE COMMINGLING OF
PRODUCTION, LEA COUNTY, NEW MEXICO

A P P L I C A T I O N

Comes now Sun Oil Company and applies to the Oil Conservation Commission of New Mexico for approval of down-hole commingling of production in its Elliott A. No. 2 well, located in Unit H. Section 21, Township 21 South, Range 37 East, N.M.P.M., Lea County, New Mexico, and in support thereof would show the Commission:

1. Applicant proposes to commingle production from the Drinkard and Tubb formations in the Elliott A. No. 2 well.

2. For the month of March production from the Drinkard was 177 barrels of condensate and 1251 mcf of gas, and from the Tubb, production was 677 mcf of gas, with no fluids.

3. The well has reached an advanced stage of depletion in both zones, and commingling of production will prolong the productive life of the well, resulting in the recovery of hydrocarbons that would not otherwise be recovered.

WHEREFORE applicant prays that this application be set for hearing before the Commission or the Commission's duly appointed examiner, and that after notice and hearing as required by law the Commission enter its order approving commingling as prayed for.

Respectfully submitted,

SUN OIL COMPANY

BY


Kellahin & Fox

P. O. Box 1769

Santa Fe, New Mexico 87501

Attorneys for Applicant

ROUGH

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. 5968
Order No. R-5482

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 June 22, 1977,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of _____, 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 Elliott A Well No. 2 located in Unit H of
Section 21, 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 ^{rate of} ~~marginal~~ production only.

(5) That from the Tubb zone, the subject well is capable of
low ^{rate of} ~~marginal~~ production only.

(6) That the production tubing should be set within 100 feet of the Drinkard perforations.

-2-

Case No. 5968
Order No. R-

(7) 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.

(8) 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.

(9) 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.

(10) 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.

(11) That Commission Administrative Order No. DC-77, which previously authorized the dual completion of said well, should be superseded.
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 Elliott A Well No. 2 located in Unit H of Section 21, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

Provided However, that production tubing shall be set within 100 feet of the Drinkard perforations.

(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 ~~the~~ the subject wells.

See under

designated.