

CASE 4635: Appli. of CONTINENTAL  
FOR MULTIPLE COMPLETION AND DOWN-  
HOLE COMMINGLING, LEA COUNTY.

Case Number

4635

Application

Transcripts

Small Exhibits

ETC.

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

December 15, 1971

EXAMINER HEARING

IN THE MATTER OF:

Application of Continental Oil  
Company for multiple completion  
and down-hole commingling,  
Lea County, New Mexico

Case No. 4635

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

1 MR. UTZ: Case 4635.

2 MR. HATCH: Application of Continental  
3 Oil Company for multiple completion and down-hole commingling,  
4 Lea County, New Mexico.

5 MR. KELLAHIN: Kellahin and Fox appearing for  
6 applicant and I have one witness I would like to have sworn.

7 (Witness sworn.)

8 MR. HATCH: We continued that other case to  
9 February 17th, Jason.

10 MR. KELLAHIN: Yes, sir, at least I would hope we did.

11 MR. UTZ: Any other appearances?

12 VICTOR T. LYON

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

15 EXAMINATION

16 BY MR. KELLAHIN:

17 Q Would you state your name, please.

18 A Victor T. Lyon, L-y-o-n.

19 Q By whom are you employed? What position, Mr. Lyon?

20 A Continental Oil Company, as conservation coordinator  
21 in the Hobbs division office located in Hobbs, New Mexico.

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

24 A Yes, I have.

25 Q Are the witness's qualifications acceptable?

1 MR. UTZ: Yes, they are.

2 Q (By Mr. Kellahin) Mr. Lyon, briefly, what is proposed  
3 by the applicant in case 4635?

4 A Yes. The application of Continental Oil Company is for  
5 authority to effect a multiple completion in its  
6 Lockhart A-17 Well Number Four in such a manner that the  
7 Tubb and Drinkard Pools are produced commingled through  
8 one string of tubing and the Penrose Skelly (Grayburg)  
9 Pool produce through a separate string of pools.

10 Q Referring to what has been marked as Applicant's  
11 Exhibit Number 1, would you identify that exhibit?

12 A Yes. Exhibit Number 1 is the location plat showing the  
13 Lockhart A-17 lease outlined in red.

14 There are two noncontiguous tracts which make up  
15 this lease. One consists of the east half of the  
16 northeast half of the northeast quarter and the northeast  
17 quarter of the southeast quarter containing 120 acres  
18 and the other tract consisting of the west half of the  
19 southwest quarter in Section 17, Township 20 South,  
20 Range 37 East.

21 It also shows the location of the well which is the  
22 subject of this hearing. Lockhart A-17 Number 4  
23 located 660 feet from the north line and 660 feet  
24 from the east line of Section 17. The well is  
25 circled in red.

1 It also shows the location and ownership of the  
2 wells and properties in the nearby area, to the best of  
3 our knowledge and belief.

4 Q Now, for the purpose of this hearing, we are only  
5 concerned with that portion of the lease that is located  
6 in the west side of the section; east side of the section,  
7 is that correct?

8 A Yes, the 120-acre tract.

9 Q Referring to what has been marked as Applicant's  
10 Exhibit Number 2, would you identify that exhibit?

11 A Exhibit Number 2 contains two schematic diagrams. The  
12 one to the left shows -- is the present status of the  
13 well.

14 The well is currently a double complex in the  
15 Drinkard and Tubb Formations, producing through separate  
16 strings of tubing with a Baker Model "AD" packer set at  
17 6515.

18 The diagram on the right side of the exhibit shows  
19 the manner in which we propose to complete the well  
20 whereby the Tubb and Drinkard will be commingled  
21 and produced through one string of tubing. Another Baker  
22 packer model "AD"-1 retrievable packer will be set at  
23 approximately 6,000 feet and the Penrose Skelly Grayburg  
24 will be perforated and completed and will be produced  
25 through a separate string of tubing.

1 The well will have one joint of tailpipe in the  
2 lower packer so that the Tubb and Drinkard will be  
3 commingled at that point and will be produced through  
4 the long string of tubing.

5 Q Now, referring to what has been marked as Exhibit Number 3,  
6 would you identify that exhibit?

7 A Exhibit Number 3 is a copy of a portion or portions of  
8 the radioactivity log in the Lockhart A-17 Number 4.

9 The section to the left shows the top of the  
10 Grayburg at 3705 and the base of the Grayburg which is  
11 the top of San Andres at 3935.

12 The right-hand portion shows the top of the Tubb  
13 and 6172 and the top of the Drinkard at 6472, and the  
14 total depth of the well, which is within the Drinkard  
15 Formation.

16 Q The well, apparently, did not penetrate the base of the  
17 Drinkard then?

18 A That is correct.

19 Q Now, referring to what has been marked as Exhibit Number 4,  
20 would you identify that exhibit?

21 A Exhibit Number 4 is a decline, showing the producing  
22 rates of the two which are presently completed in this  
23 well, the upper being the Drinkard shown by the heavy  
24 solid line, and the lower being the Tubb, which is the  
25 dotted or dashed line.

1 I have extrapolated the indicated producing rates  
2 or decline rates to the year 1974, the end of 1974.

3 As you can see, the Tubb Formation has the lower  
4 producing rate, but it has also a lower decline rate.

5 And the Tubb has at this time virtually reached its  
6 economic limit as a separate producer.

7 The Drinkard still has several years of remaining  
8 producing life, but by commingling these two  
9 formations we can extend the producing life of both  
10 formations for probably another nine to ten years.

11 Now --

12 Q Now, on the basis of the present production, what  
13 percentage of the commingled producing would you  
14 anticipate would be produced from the Drinkard as  
15 opposed to the Tubb?

16 A Well, in 1970, September of 1971, the Drinkard  
17 produced 73 percent of the combined production from  
18 the wells.

19 In September, 1966, Drinkard produced 80 percent  
20 and the projection of producing rates indicates that the  
21 Drinkard will produce only 67 percent of the combined  
22 production in December of 1974.

23 The Drinkard on October, 1971, tested eight barrels  
24 of oil, no water, and 104 MCF of gas.

25 The Tubb on November 4, 1971, tested three barrels



1 of oil, no water, and 20 MCF gas.

2 The gas-oil ratio of the Tubb Pool is approximately  
3 one-half of that of the Drinkard and based on this data,  
4 we recommend that the commingled production be  
5 allocated on the basis of the seventy percent of the oil  
6 and eighty-five percent of the gas to the Drinkard zone  
7 and thirty percent of the oil and fifteen percent of  
8 the gas to Tubb zone.

9 We have measured the bottom-hole pressure in both  
10 zones on November 10th, 1971, and after 24 hours shut-in,  
11 the Drinkard was indicated to be 369 pounds and the Tubb  
12 was 1904 pounds.

13 I might call to your attention that the Drinkard is  
14 not -- or usually slow in building up pressure.

15 MR. UTZ: What was that pressure again?

16 THE WITNESS: It was 369 pounds. I don't believe  
17 the Drinkard had anywhere built up its ultimate pressure.

18 Q (By Mr. Kelly) In your opinion, would the approval of  
19 this application result in the recovery of oil that would  
20 not otherwise be recovered?

21 A Yes.

22 Q Why do you say that?

23 A Well, by producing the two zones together, we can extend  
24 the producing life of both zones and consequently we can  
25 produce them to a lower individual zone producing rate.

1 Q Now, the Penrose Grayburg, Penrose Skelly Pool produces  
2 in this area?

3 A Yes, it does.

4 Q Would the Penrose be justified as a single complex?

5 A No, the indicated remaining reserves would not justify  
6 the drilling of a separate well to the Penrose Skelly.

7 Q Would then the additional complex in the Penrose also  
8 result in the recovery of oil that would not otherwise  
9 be recovered?

10 A Yes, it very definitely will.

11 Q Will the correlative rights of any offset operator be  
12 affected by this?

13 A No, I don't believe there will be any impairment of  
14 the correlative rights.

15 Q In your opinion, would the commingling of production  
16 from the two zones result in any damage to either zone?

17 A I see no reason to expect there would be any damage at all  
18 to either zone.

19 Q Were Exhibits 1 through 4 prepared by you or under your  
20 supervision?

21 A Yes, sir.

22 MR. KELLY: At this time I would like to offer into  
23 evidence Exhibits 1 through 4, inclusive.

24 MR. UTZ: If there is no objection, Exhibits 1  
25 through 4 will be entered into the record of this case.

(Exhibits 1 through 4 admitted.)

MR. KELLY: That completes the testimony.

MR. UTZ: Do you have any data, Mr. Lyon, that would show rate buildup or calculated established pressure of Drinkard?

THE WITNESS: We have measured the 24-hour buildup in the Drinkard before and it is nearly always low in this range and after we have also measured it after six months to a year of shut-in and it has been more in the neighborhood of the Tubb zone here in the range of 900 to 1100 pounds.

MR. UTZ: After a year's shut-in, yes, but we do not have a balanced curve over an extended period of time.

MR. UTZ: Do you have that information? You say you have done this before?

THE WITNESS: Yes.

MR. UTZ: Do you have that information available?

THE WITNESS: I don't have it with me, but we have submitted it on several occasions in application for administrative approval of down-hole commingling and I would be glad to tabulate this data for you.

MR. UTZ: Would you do that so that we have a little better indication that these pressures are closer together, and it would seem that they are at this time.

THE WITNESS: Yes. I would be glad to.

MR. UTZ: That is 369 versus 904. Doesn't look

1 too good for commingling.

2 THE WITNESS: That is true. This is one of the  
3 unfortunate things about taking short build-up pressure.

4 MR. UTZ: Yes.

5 Now, what kind of bor do you have or did you have on  
6 these two zones?

7 THE WITNESS: Let's see. I don't believe -- I  
8 had a note which I left in my room, but the Drinkard was 8  
9 barrels and 104 MCF, which is about 12,000 gas-oil ratio.

10 The Tubb was 3 barrels of oil and 20 MCF which is  
11 about 6600 gas-oil ratio.

12 MR. UTZ: In order to effect this conversion, you  
13 are going to set another packer at approximately what?

14 THE WITNESS: 6,000 feet.

15 MR. UTZ: 6,000. I don't know whether it is  
16 pertinent to this case or not, but I would like to know how  
17 you are going to leave that one string of tubing in that  
18 packer.

19 THE WITNESS: The one joint of tubing rather, what  
20 we will do is just back off at the joint, the well organization  
21 the procedure here says we will pull -- we will hold the  
22 left-hand torque and set down to release the tubing receptacle,  
23 which will leave the tailpipe in the packer with the tubing,  
24 seal assembly intact.

25 MR. UTZ: Will you remove -- in other words, you

1 will remove the Drinkard tubing with the exception of the one  
2 joint of tubing in the packer?

3 THE WITNESS: Right. We will back up the tubing  
4 seal assembly and pull all of the tubing above that point out  
5 of the well, leaving the tubing seal assembly, plus one joint  
6 of tailpipe hanging in the tubing.

7 MR. UTZ: Then the additional packer?

8 THE WITNESS: Yes, and incidentally, both the Tubb  
9 and Drinkard are flowing and we expect them to continue to  
10 flow.

11 MR. UTZ: Are there any other questions?

12 MR. KELLY: I have one more: Do you also expect  
13 the Penrose to flow?

14 THE WITNESS: I believe that the offset production,  
15 which is quite recent, is flowing. I am not -- I couldn't say  
16 at this point whether it will flow during its entire  
17 producing life.

18 MR. UTZ: Other questions of the witness?

19 You may be excused.

20 Statements in the case?

21 Case will be taken under advisement.

22 Hearing is adjourned.  
23  
24  
25

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS  
 209 SIMMS BLDG. P.O. BOX 1092 PHCNE 243-6691 ALBUQUERQUE, NEW MEXICO 87103  
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1 STATE OF NEW MEXICO )  
2 COUNTY OF BERNALILLO ) SS

3 I, RICHARD STURGES, Court Reporter in and for the  
4 County of Bernalillo, State of New Mexico, do hereby certify  
5 that the foregoing and attached Transcript of Hearing before  
6 the New Mexico Oil Conservation Commission was reported by  
7 me and that the same is a true and correct record of the said  
8 proceedings, to the best of my knowledge, skill, and ability.

9  
10 Richard Sturges  
11 Court Reporter

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21  
22 I do hereby certify that the foregoing is  
23 a complete record of the proceedings in  
24 the hearing of Case No. 4635  
25 held by me on Dec 15, 1971  
Examiner  
New Mexico Oil Conservation Commission



# OIL CONSERVATION COMMISSION

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

**GOVERNOR  
BRUCE KING  
CHAIRMAN**

**LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER**

STATE GEOLOGIST  
A. L. PORTER, JR.  
SECRETARY - DIRECTOR

**January 4, 1972**

Mr. Jason Kellahin  
Kellahin & Fox  
Attorneys at Law  
Post Office Box 1769  
Santa Fe, New Mexico

Re: Case No. 4635  
Order No. R-4233  
Applicant:  
Continental Oil 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.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC           x            
Artesia OCC                             
Aztec OCC                           

Other \_\_\_\_\_



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. 4635  
Order No. R-4233

APPLICATION OF CONTINENTAL OIL  
COMPANY FOR MULTIPLE COMPLETION  
AND DOWN-HOLE COMMINGLING, LEA  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 15, 1971, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 4th day of January, 1972, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Continental Oil Company, is the owner and operator of the Lockhart A-17 Well No. 4, located in the NE/4 NE/4 of Section 17, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico.

(3) That pursuant to authority granted by Administrative Order DC-774 the subject well was completed as a dual completion (conventional) to produce oil from the Tubb and Drinkard Oil Pools.

(4) That the Tubb and Drinkard zones in the subject well are now capable of only low marginal production.

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CASE NO. 4635  
Order No. R-4233

(5) That the applicant now proposes to perforate the subject well in the Penrose Skelly (Grayburg) Oil Pool and to complete said well in such a manner as to commingle in the well-bore the production from the Tubb and Drinkard oil zones and to produce said commingled production from the Tubb and Drinkard Oil Pools through one string of 2-3/8 inch tubing and to produce the anticipated low marginal oil production from the Penrose Skelly (Grayburg) Pool through a parallel string of 2-3/8 inch tubing, with separation of the Penrose Skelly (Grayburg) zone and the commingled Tubb and Drinkard zones by means of a packer set at approximately 6,000 feet.

(6) That the proposed commingling of the Tubb and Drinkard zones may substantially extend the productive lives of said zones.

(7) That the reservoir characteristics of the Tubb and Drinkard zones in the subject well are such that underground waste would not be caused by the proposed commingling in the well-bore.

(8) That the proposed commingling may result in the recovery of additional oil from each of the commingled zones, thereby preventing waste, and will not violate correlative rights.

(9) That the mechanics of the proposed completion are feasible and in accord with good conservation practices.

(10) That in order to allocate the commingled production to each of the commingled zones in the subject well, 30% of the commingled oil production should be allocated to the Tubb zone, 70% of the commingled oil production to the Drinkard zone, 15% of the commingled gas production to the Tubb zone and 85% of the commingled gas production to the Drinkard zone.

(11) That approval of the subject application will prevent waste and protect correlative rights.

(12) That Administrative Order DC-774 should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to complete its Lockhart A-17 Well No. 4,

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CASE NO. 4635  
Order No. R-4233

located in the NE/4 NE/4 of Section 17, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, in such a manner as to produce oil from the Penrose Skelly (Grayburg) Pool through one string of 2-3/8 inch tubing and to produce oil from the Tubb and Drinkard Pools through a single parallel string of 2-3/8 inch tubing, commingling in the well-bore the production from the Tubb and Drinkard Pools, with separation of the Penrose Skelly (Grayburg) zone and the commingled Tubb and Drinkard zones by means of a packer set at approximately 6,000 feet.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall notify the Commission of any substantial increase of the gas-oil ratio of the commingled zones.

(2) That 30% of the commingled oil production shall be allocated to the Tubb zone, 70% of the commingled oil production to the Drinkard zone, 15% of the commingled gas production to the Tubb zone and 85% of the commingled gas production to the Drinkard zone.

(3) That the commingling in the well-bore authorized by this order shall continue only so long as the commingled production of the two zones does not exceed 40 barrels of oil per day nor 80 barrels of water per day.

(4) That the maximum amount of gas which may be produced daily from the commingled zones in the subject well shall be determined by multiplying 2,000 by the top unit allowable for the Tubb pool.

(5) That Administrative Order DC-774 is hereby superseded.

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

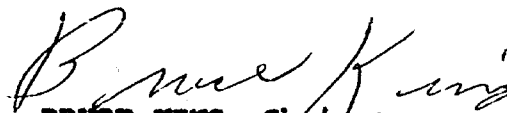
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CASE NO. 4635


Order No. R-4233

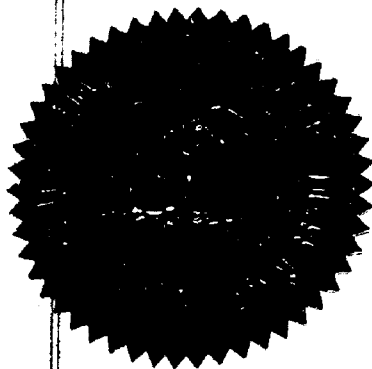
DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
BRUCE KING, Chairman

  
ALEX J. ARMIGO, Member

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



S E A L

dr/

Case 4635 Grant Continued as per memo  
 dated 12-15-71 To Decally complete their  
 Per. 12-16-71 Lockhart A-17 A-4, A-17-  
 21-37 as follows:

Well is now completed in the  
 Subb + Drinkard by authority of  
 DE-774.

The Penrose Kelly - Grayburg will  
 be perforated 3746-92 + produced  
 thru 2 3/8 tubing.

The Subb & Grayburg will be  
 segregated by a packer set at  
 approx. 6000 ft.

The Subb & Den will be com-  
 mingled thru the old packer  
 set at approx. 6515 + produced  
 thru 2 3/8" tubing set thru the  
 packer at 6000'.

Require the ~~Drinkard~~ production  
 to be reported as follows:

	Oil	Gas
Subb.	30%	15%
Drinkard	70%	85%

*[Signature]*

Docket No. 28-71

DOCKET: REGULAR HEARING - WEDNESDAY - DECEMBER 15, 1971

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

- ALLOWABLE: (1) Consideration of the oil allowable for January and February, 1972;
- (2) Consideration of the allowable production of gas for January, 1972, from fifteen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico. Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico for January, 1972; consideration of purchaser's nominations for the six-month period beginning February 1, 1972 for that area.

CASE 4575: (De Novo) (This case, previously continued from its October 13, 1971, hearing, will be continued to the February 16, 1972, regular hearing)

Application of Anadarko Production Company for the amendment of the special pool rules for an existing pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of the special rules and regulations governing the South Eunice-San Andres Pool to provide for the classification of oil and gas wells, spacing and well location requirements, and an allocation formula for withdrawals by oil and gas wells.

Upon application of Anadarko Production Company, this case will be heard De Novo under the provisions of Rule 1220.

CASE 4557: (De Novo) (This case, previously continued from its October 13, 1971, hearing, will be continued to the February 16, 1972, regular hearing)

Application of Continental Oil Company for transfer of allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to transfer allowable across boundaries of the participating area and the leases outside said area, but within the Maljamar Co-operative Area, MCA Unit Area, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico.

Upon application of Continental Oil Company, this case will be heard De Novo under the provisions of Rule 1220.

Regular Hearing - December 15, 1971

Docket No. 28-71

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\* \* \* \* \*

THE FOLLOWING CASES WILL BE HEARD BEFORE ELVIS A. UTZ, EXAMINER,  
OR DANIEL S. NUTTER, ALTERNATE EXAMINER, IN THE OIL CONSERVATION  
COMMISSION CONFERENCE ROOM ON THE SECOND FLOOR OF THE LAND OFFICE  
BUILDING AT 10 O'CLOCK A.M.

\* \* \* \* \*

CASE 4625: (Continued from the November 17, 1971, Examiner Hearing)  
Application of Texaco Inc. for downhole commingling,  
Eddy County, New Mexico. Applicant, in the above-styled  
cause, seeks authority to commingle production from the  
Paduca-Morrow and Paduca-Wolfcamp Gas Pools in the well-  
bore of its Cotton Draw Unit Well No. 65 located in Unit  
G of Section 2, Township 25 South, Range 31 East, Eddy  
County, New Mexico.

CASE 4633: Application of El Paso Natural Gas Company for the suspension  
of certain provisions of Rules 14 (A) and 15 (A) of the  
General Rules and Regulations for the prorated gas pools  
of Southeastern New Mexico, promulgated by Order No. R-1670,  
as amended. Applicant, in the above-styled cause, seeks  
suspension for a period of one year from January 1, 1972,  
of those provisions of Rules 14 (A) and 15 (A) of the  
General Rules and Regulations for the prorated gas pools  
of Southeastern New Mexico that provide, respectively,  
for the cancellation of unproduced allowable and the shutting-  
in of overproduced wells. Applicant seeks said suspension  
for the Blinebry, Crosby (Devonian), Eumont, Jalmat, Justis,  
Monument (McKee), and Tubb Gas Pools, all in Lea County,

CASE 4634: Application of Texaco Inc. for a waterflood expansion,  
Lea County, New Mexico. Applicant, in the above-styled  
cause, seeks authority to expand its West Vacuum Unit Water-  
flood Project, Vacuum Pool, by the conversion to water  
injection of eleven wells located in Sections 28, 33, and  
34 of Township 17 South, Range 34 East, and Sections 3 and  
4 of Township 18 South, Range 34 East, Lea County, New  
Mexico.

CASE 4635: Application of Continental Oil Company for multiple comple-  
tion and down-hole commingling, Lea County, New Mexico.  
Applicant, in the above-styled cause, seeks authority to  
complete its Lockhart A-17 Well No. 4, located in the NE/4  
NE/4 of Section 17, Township 21 South, Range 37 East, Lea  
County, New Mexico, in such a manner as to produce oil  
from the Tubb and Drinkard Pools through a single string  
of tubing and oil from the Penrose Skelly (Grayburg) Pool  
through a parallel string of tubing.

CASE 4637: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Luttrell Oil Company and all other interested persons to appear and show cause why the following-described wells in New Mexico should not be plugged and abandoned in accordance with a Commission-approved plugging program:

Luttrell Oil Company State Well No. 1 - Unit M,  
Section 28, Township 2 South, Range 26 East,  
De Baca County;

Luttrell Oil Company Corn Well No. 1 - Unit A,  
Section 5, Township 8 South, Range 24 East,  
Chaves County.

CASE 4636: Southeastern nomenclature case calling for an order for the creation and extension of certain pools in Lea, Eddy and Roosevelt Counties, New Mexico.

(a) Create a new pool in Eddy County, New Mexico, classified as a gas pool for Atoka production and designated as the West Sand Dunes-Atoka Gas Pool. The discovery well is the El Paso Natural Gas Company Arco State No. 1 located in Unit K of Section 16, Township 23 South, Range 31 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 31 EAST, NMPM  
SECTION 16: S/2

(b) Extend the North Allison-San Andres Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM  
SECTION 18: SE/4  
SECTION 19: NE/4

(c) Extend the North Bagley-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 12 SOUTH, RANGE 33 EAST, NMPM  
SECTION 9: SE/4

(d) Extend the South Carlsbad-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM  
SECTION 19: S/2



(Case 4636 continued)

(e) Extend the South Carlsbad-Strawn Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 27 EAST, NMPM  
SECTION 30: S/2

(f) Extend the Catclaw Draw-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM  
SECTION 23: All

(g) Extend the Cerca-Upper Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 34 EAST, NMPM  
SECTION 2: SW/4  
SECTION 3: S/2

(h) Extend the Eagle Creek-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM  
SECTION 15: S/2 S/2  
SECTION 21: S/2 NE/4 and SW/4  
SECTION 27: S/2 NW/4  
SECTION 28: S/2 NE/4 and NW/4

(i) Extend the Grayburg Jackson Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 30 EAST, NMPM  
SECTION 10: S/2 SW/4

(j) Extend the Grayburg-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM  
SECTION 21: S/2  
SECTION 22: NW/4 NE/4, N/2 SW/4, and SW/4 SW/4

(k) Extend the Justis-Blinbry Pool in Lea County, New Mexico, therein:

(Case 4636 continued)

(k) TOWNSHIP 25 SOUTH, RANGE 37 EAST, NMPM  
SECTION 12: SE/4

(l) Extend the North Lynch Yates-Seven Rivers Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 34 EAST, NMPM  
SECTION 17: SW/4  
SECTION 20: NW/4

(m) Extend the Malaga-Delaware Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 28 EAST, NMPM  
SECTION 24: NW/4 SW/4

(n) Extend the Power Grayburg-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM  
SECTION 1: SE/4 NE/4

(o) Extend the Shugart Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM  
SECTION 23: W/2 SW/4

(p) Extend the Tres Papalotes-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 34 EAST, NMPM  
SECTION 28: SW/4  
SECTION 29: S/2

(q) Extend the Weir-Blinbry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 37 EAST, NMPM  
SECTION 15: SE/4

from

V. T. LYON

12-16, 1971

To Elvis Utz NMUCC Santa Fe

Re: Case 4635

Most of our Drinkcard BHP's have been estimated for DITC applications so data is a little scarce. The instance I was trying to recall on the stand was Hawk B-10 #10 in C-10-21-37 which had BHP of 1201 psi after 2 yr shut-in. It's offset well, State 10 #3 in D-10-21-37 had 24-hr SIP of 523#. If we search the files we can probably find curves showing slow build-up. Let me know if you need more data.

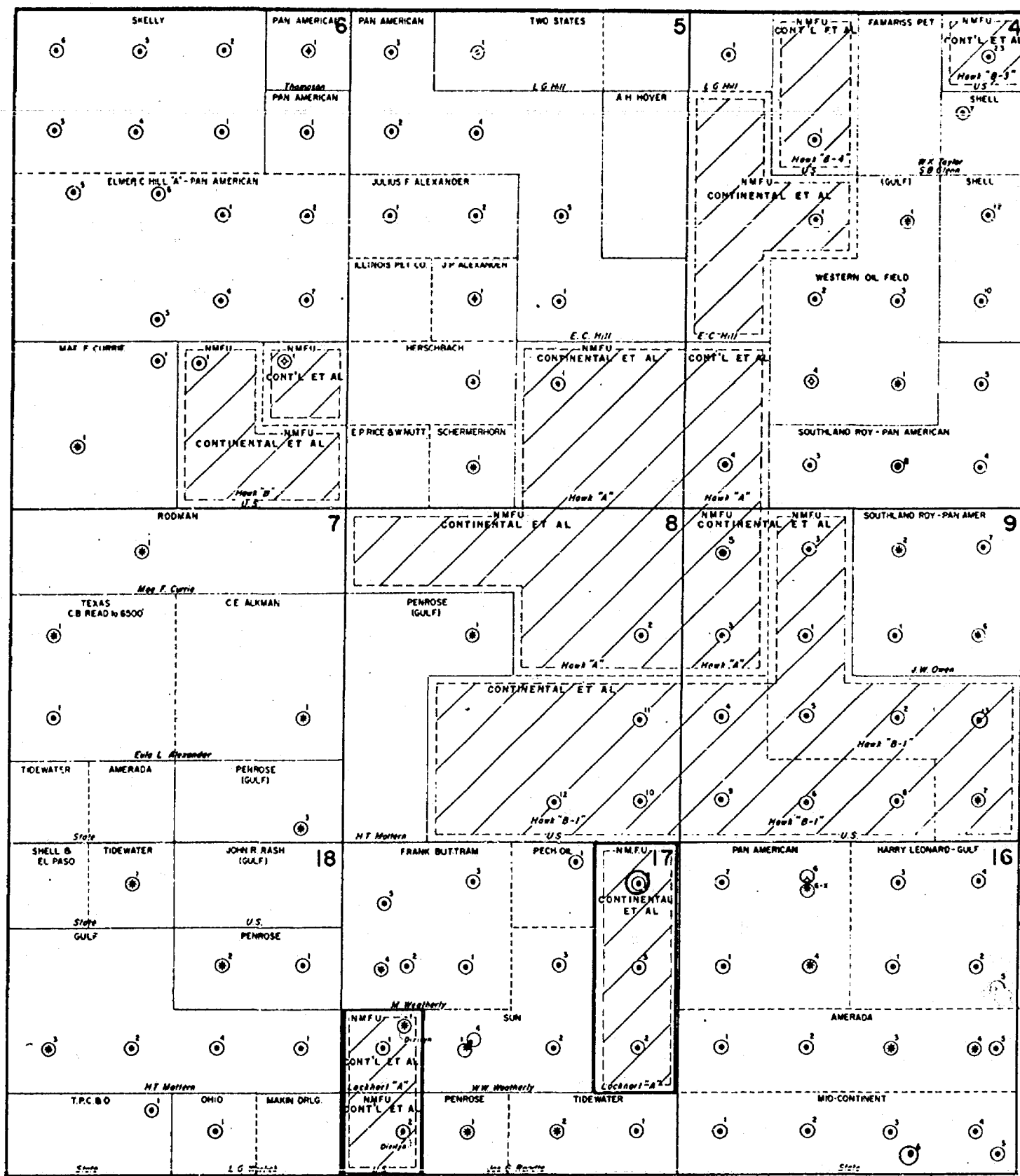
Incidentally the Drinkcard-Tubb dual was authorized by order DC-774.

I would estimate a stabilized Drinkcard BHP in the neighborhood of 750 psi

RECEIVED

DEC 17 1971

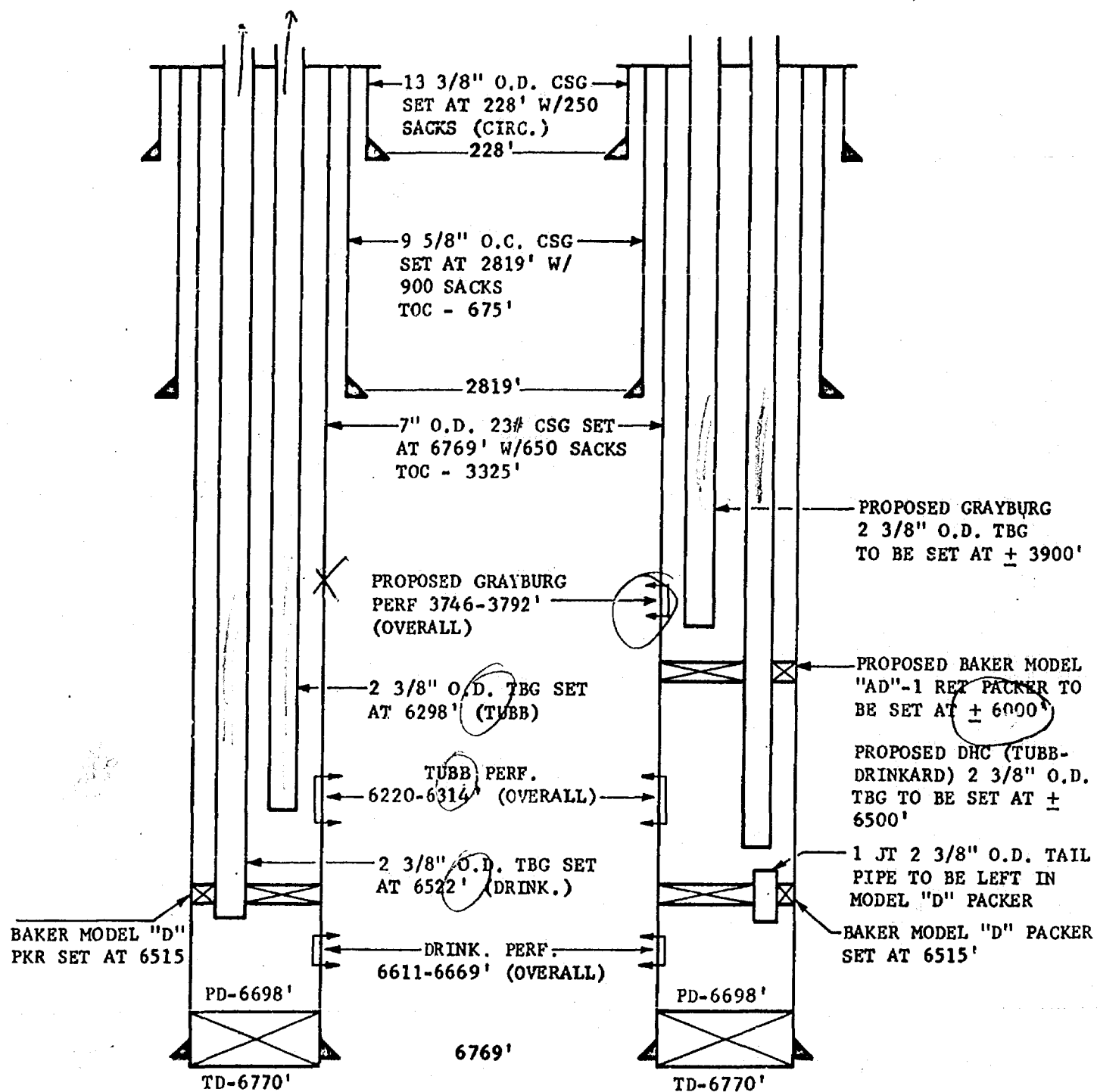
OIL CONSERVATION COMM.  
SANTA FE



Continental Oil Company

Lockhart A-17 Lease  
T-21S, R-37E  
Lea County, New Mexico

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. 1  
LEASE NO. 4635



PRESENT WELLBORE STATUS  
TUBB-DRINKARD DUAL COM-  
PLETION

PROPOSED WELLBORE  
INSTALLATION FOR TUBB-  
DRINKARD DHC AND GRAY-  
BURG DUAL COMPLETION

BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

EXHIBIT NO. 2

CASE NO. 4635

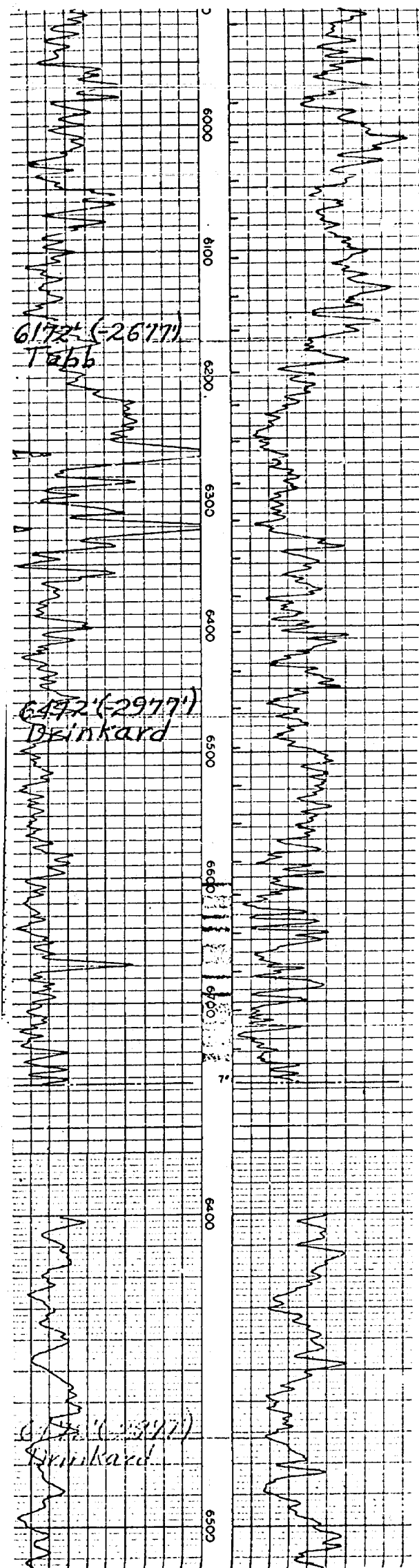
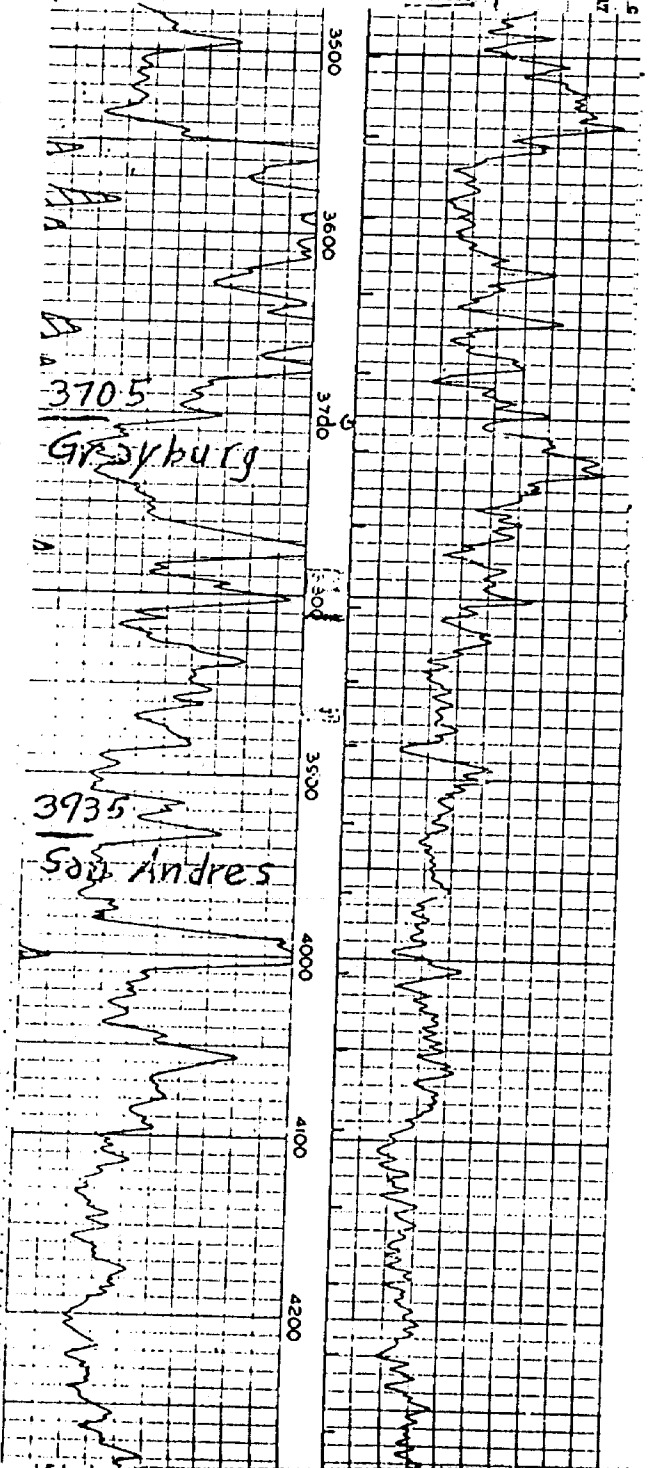
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West Texas Electrical Log Service  
1305 Commerce Street  
Dallas 1, Texas

REFERENCE NO. A 799 -E

*Development Well*

# LANE RADIOACTIVITY LOG WELLS COMPANY

Location of Well	COMPANY: CONTINENTAL OIL CO. WELL: A. M. LOCKHART A-17 #6 FIELD: RUSICE DRINKARD COUNTY: LEA STATE: N.M. LOCATION: SEC. 17-213-37E <i>6150' - 6250'</i>	FILE NO.
LOG MEAS. FROM ROTARY TABLE	REV. 34851	



BEFORE EXAMINER UTZ

OIL CONSERVATION COMMISSION

EXHIBIT NO. 3

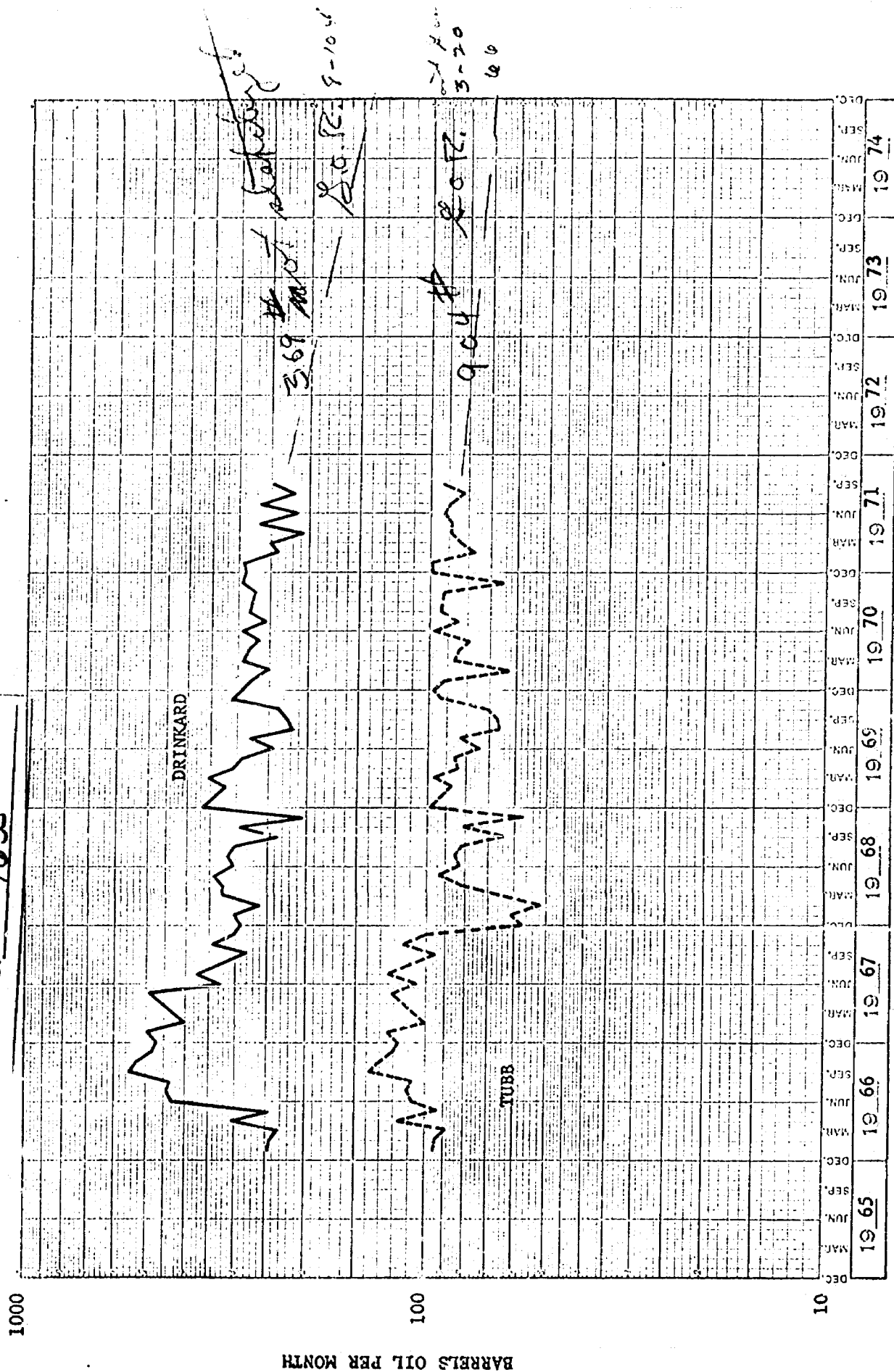
CASE NO. 4635

BEFORE EXAMINER UTZ  
OIL CONSERVATION COMPANY

EXHIBIT NO. 4

CASE NO. 4635

LOCKHART A-17 NO. 4





PROPOSED TESTIMONY - CASE NO. 4635  
NMOCC DECEMBER 15, 1971 EXAMINER DOCKET

(Attorney makes opening statement and introduces witness who is sworn)

Case No. 4635 is the application of Continental Oil Company for authority to effect a multiple completion in its A. M. Lockhart A-17 Well No. 4 in such a manner that the Tubb and Drinkard Pools are produced commingled through one string of tubing and the Penrose Skelly (Grayburg) production is produced through a separate string of tubing.

Exhibit No. 1 is a location plat showing the Lockhart A-17 Lease outlined in red consisting of two non-contiguous tracts, one being the E/2 NE/4 and NE/4 SE/4 of Section 17 and the other being the W/2 SW/4 of that section. The tract in which we are interested is the 120-acre tract located on the eastern side of the section. Well No. 4 is circled in red and shown to be located 660 feet from the north line and 660 feet from the east line of the section. The exhibit also shows the location and ownership to the best of our knowledge and belief of nearby properties and wells.

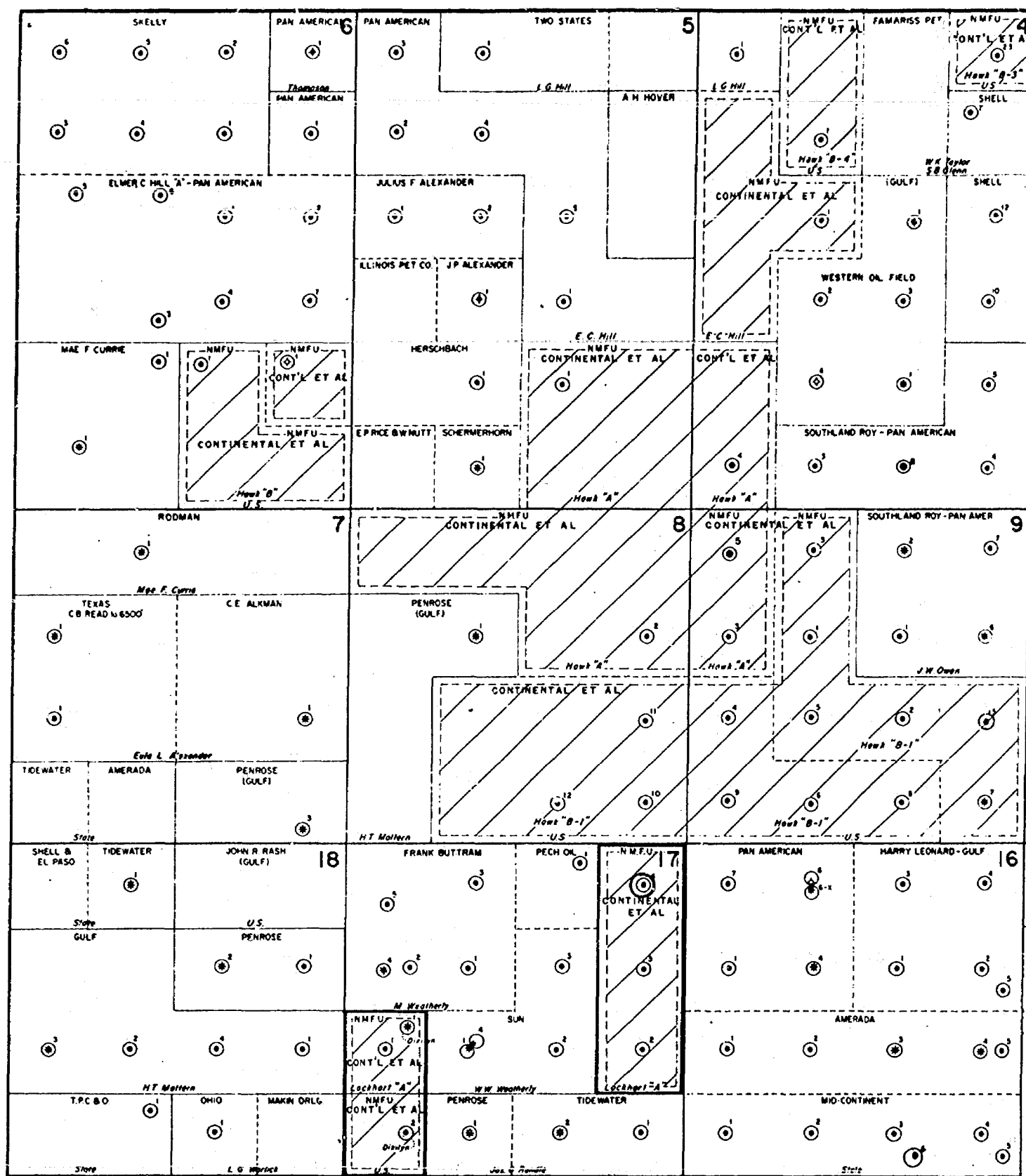
Exhibit No. 2 has two schematic diagrams of the well. The diagram to the left shows the well in its present status as a dual completion in the Drinkard and Tubb oil pools. The well is presently being produced through individual tubing strings for each zone of completion. The diagram on the right hand side of the page shows the manner in which the well is proposed to be completed. Both strings of tubing are to be removed except for one joint of tail pipe to be left in the Model "D" packer which is set at 6515'. A second packer is to be set at approximately 6000' and the Grayburg will be perforated and stimulated in the interval 3746-92'. One string of tubing will be run through the upper packer and will be used to produce the commingled Tubb and Drinkard production. The second string of tubing will be run and set at approximately 3900' for production of the Penrose Skelly (Grayburg) production.

Exhibit No. 3 is a copy of a portion of a gamma ray neutron log for the well showing the pertinent zones of interest. The portion on the left hand side of the exhibit shows the Grayburg top at 3705' and the base at 3935'. The right hand side of the exhibit shows the top of the Tubb at 6172' and the base of the Tubb, which is coincident with the top of the Drinkard, at 6472'. The base of the Drinkard is not shown and apparently was not penetrated.

Exhibit No. 4 is a decline curve showing the production of the two zones to be commingled, Drinkard and Tubb, beginning in 1966 and continuing through the month of September, 1971. The Tubb is producing at virtually its economic limit as a separate completion. This formation has a very shallow decline rate as compared to the Drinkard. In September 1966, the Drinkard produced 80 percent of the combined production from the well. In September 1971, the Drinkard produced only 73% of the combined production from the well. Projecting current decline rates into the future, it would appear that in December 1974, the Drinkard will produce 67% of the combined production from the two zones. The Drinkard, on October 13, 1971, tested 8 barrels oil and no water and 104 MCF gas. The Tubb, On November 4, 1971, tested 3 barrels oil, no water, and 20 MCF gas. The gas-oil ratio of the Tubb is approximately 1/2 of that of the Drinkard. Based on the data just presented, it is recommended that the commingled production be allocated on the basis of 70% of the oil and 85% of the gas to the Drinkard zone and 30% of the oil and 15% of the gas to the Tubb zone. The bottom hole pressure in the two zones was measured on November 10, 1971, and after 24 hours shut in, was found to be 369 pounds in the Drinkard and 904 pounds in the Tubb. Both zones are flowing and it is anticipated that after the proposed work, the commingled production will flow without difficulty. We anticipate that the Penrose Skelly zone will also flow.

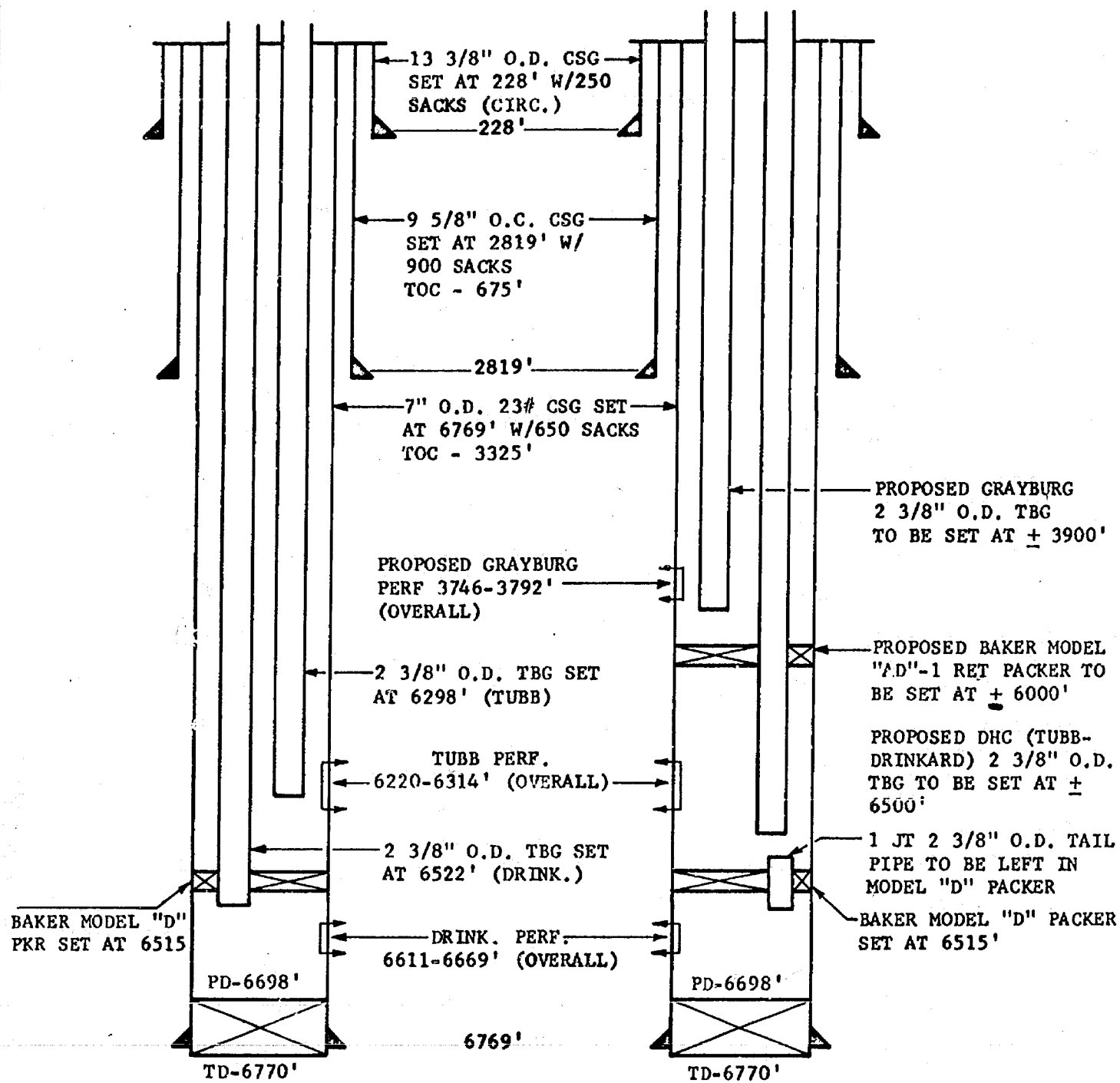
In my opinion, the granting of this application will result in the recovery of additional oil which otherwise would not be recovered. This conclusion is reached by the fact that the Tubb zone is virtually at its economic limit and its producing life will be extended for approximately 8-10 years. The Drinkard zone is expected to reach its economic limit as a single zone completion in approximately five years, but with the two zones commingled, the estimated life is approximately nine years. In addition, the proposed completion will permit the development of the Penrose Skelly Pool at this location at this time rather than having to wait until one or both of the lower zones are depleted. The Penrose Skelly Pool, of course, has been producing for a number of years and the reserves underlying the tract would not, at this late date, justify the drilling of a well. It is further my opinion that the granting of this application will protect rather than impair correlative rights.

(Attorney offers exhibits into record and makes closing statement)



Continental Oil Company

Lockhart A-17 Lease  
T-21S, R-37E  
Lea County, New Mexico



PRESENT WELLBORE STATUS  
TUBB-DRINKARD DUAL COM-  
PLETION

PROPOSED WELLBORE  
INSTALLATION FOR TUBB-  
DRINKARD DHC AND GRAY-  
BURG DUAL COMPLETION

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 1305 Commerce Street  
 Dallas 1, Texas

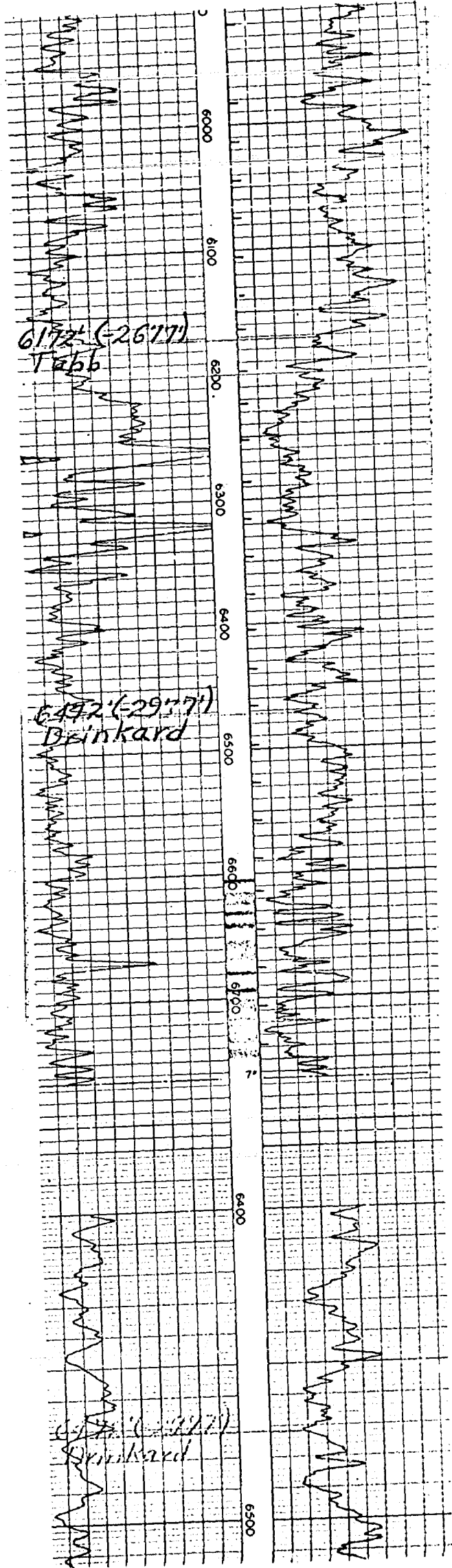
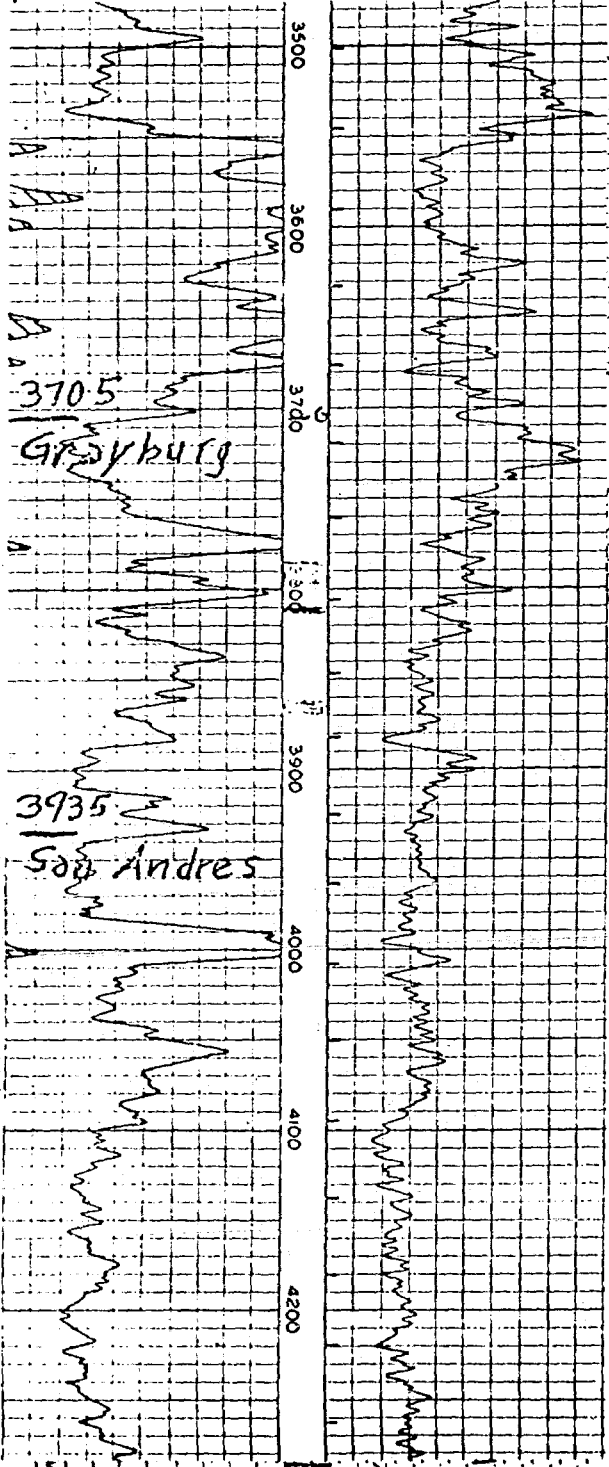
REFERENCE NO. A733 -E

*Development Well*

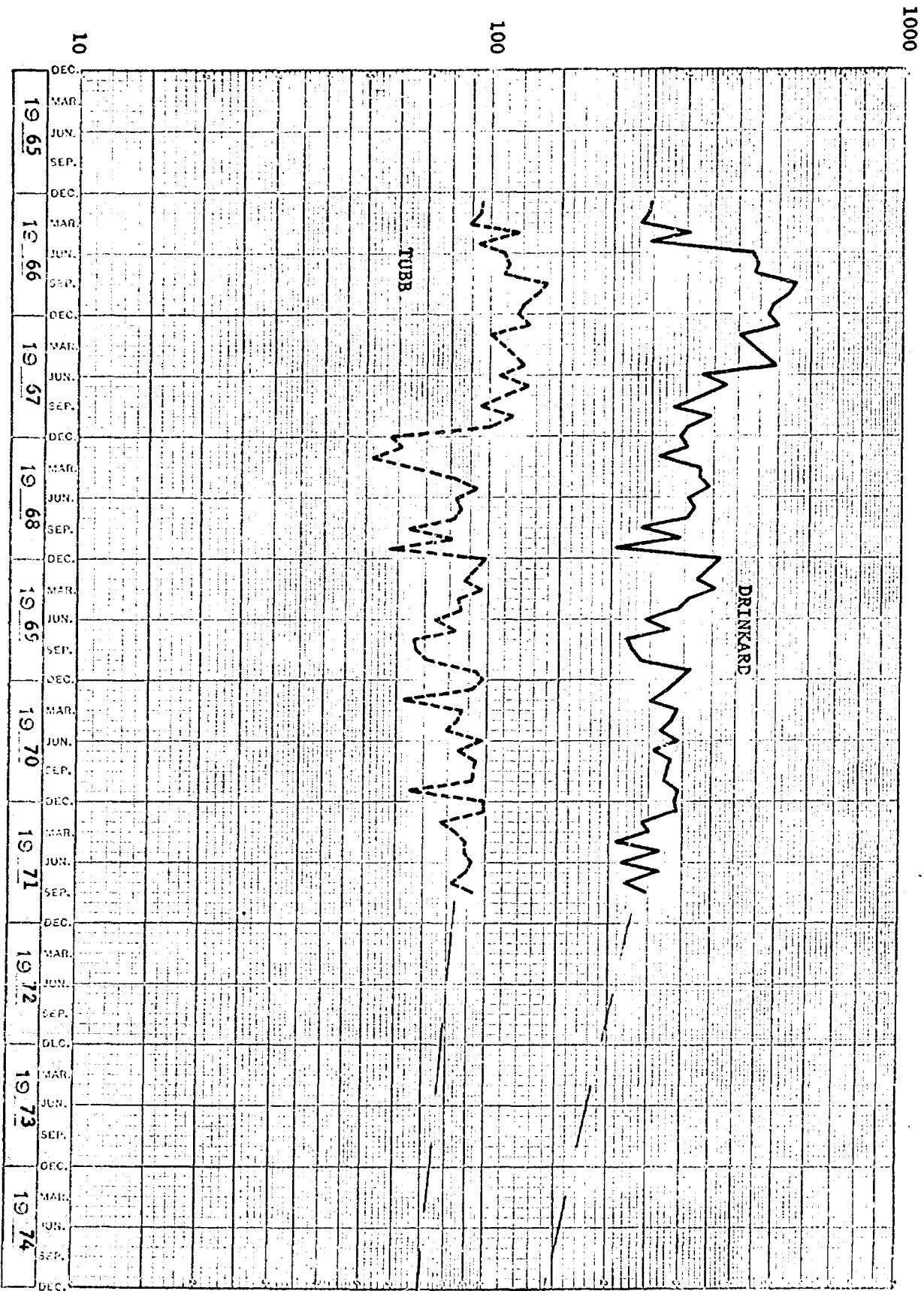
# **LANE RADIOACTIVITY LOG WELLS** COMPANY

Location of Well	COMPANY: CONTINENTAL OIL CO.	FILE NO.
	WELL: A. M. LOCKHART A-17 #4	WELL: A. J. LOCKHART A-17
	FIELD: BONICK DRINKARD	FIELD: BONICK DRINKARD
	COUNTY: T&M STATE: N.M.	COUNTY: T&M STATE: N.M.
	LOCATION: SEC. 17-213-37E	LOCATION: SEC. 17-213-37E

LOG MEAS. FROM ROTARY TABLE ELEV. 3495'



BARRELS OIL PER MONTH



LOCKHART A-17 NO. 4



L. P. Thompson  
Division Manager  
Production Department  
Hobbs Division

Western Hemisphere Petroleum Division  
Continental Oil Company  
P. O. 460  
1001 North Turner  
Hobbs, New Mexico 88240  
(505) 393-4141

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NOV 22 1971

OIL CONSERVATION COMM.  
SANTA FE

*Case 4635*

November 18, 1971

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

Attention Mr. A. L. Porter, Jr.  
Secretary Director

Gentlemen:

Application for Hearing - Multiple Completion - Lockhart A-17 No. 4 -  
A-17-21-37, Lea County, New Mexico

Forwarded in triplicate is our application for authority to effect a multiple completion in the Lockhart A-17 Well No. 4 so as to produce the Tubb and Drinkard on a commingled basis through one string of tubing and the Grayburg through a second string of tubing. We should appreciate your setting this matter for hearing on your December 15, 1971, Examiner Docket.

Yours very truly,

rw  
Enc:  
CC:  
RLA: JJB: JWK:

DOCKET MAILED

Date 12-3-71

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE  
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF  
CONTINENTAL OIL COMPANY FOR AUTHORITY  
TO EFFECT A MULTIPLE COMPLETION WHEREBY  
THE TUBB AND DRINKARD FORMATIONS WILL  
BE PRODUCED, COMMINGLED, THROUGH ONE  
TUBING STRING AND THE PENROSE SKELLY  
(GRAYBURG) WILL BE PRODUCED THROUGH  
A SECOND STRING OF TUBING IN ITS  
LOCKHART A-17 WELL NO. 4, LOCATED  
IN NE/4 NE/4 SECTION 17, TOWNSHIP  
21 SOUTH, RANGE 37 EAST, LEA COUNTY,  
NEW MEXICO

*Case 4635*

A P P L I C A T I O N

APPLICANT, Continental Oil Company, hereby requests authority to effect a multiple completion whereby the Tubb and Drinkard Pools will be produced, commingled, through one string of tubing and the Penrose Skelly (Grayburg) will be produced through a second string of tubing in its Lockhart A-17 Well No. 4, located in the NE/4 NE/4 Section 17, Township 21 South, Range 37 East, Lea County, New Mexico, and in support thereof would show:

1. Applicant is operator and co-owner of the Lockhart A-17 Lease consisting of E/2 NE/4 and NE/4 SE/4, and other lands, in Section 17, Township 21 South, Range 37 East, Lea County, New Mexico.
2. Applicant has heretofore drilled and dual completed, under the authority of Administrative Order DC-774, its Lockhart A-17 No. 4 Well located 660' from the north line and 660' from the east line of said Section 17 as a producer in the Drinkard and Tubb Oil Pools.
3. Applicant now desires to commingle in the wellbore the production from the said Drinkard and Tubb Pools and to multiply complete the well so as to permit production from the Penrose Skelly (Grayburg) Pool in such a manner it will be segregated in the well from the Tubb and Drinkard production.



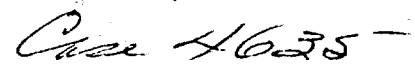
4. That the granting of this application will prevent waste and will not impair correlative rights.

WHEREFORE, Applicant respectfully requests that this matter be set for hearing before the Commission's duly appointed Examiner and that upon hearing an order be entered authorizing the multiple completion of Applicant's Lockhart A-17 Well No. 4 as described above.

Respectfully submitted,  
CONTINENTAL OIL COMPANY

  
L. P. Thompson  
Division Manager

rw



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:

APPLICATION OF CONTINENTAL OIL  
COMPANY FOR MULTIPLE COMPLETION  
AND DOWN-HOLE COMMINGLING, LEA  
COUNTY, NEW MEXICO.

CASE No. 4635

Order No. R-4233

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on December 15, 1971,  
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this        day of December, 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, Continental Oil Company, is the  
owner and operator of the Lockhart A-17 Well No. 4, located in  
the NE/4 NE/4 of Section 17, Township 21 South, Range 37 East,  
NMPM, Lea County, New Mexico.

-2-  
CASE NO. 4635  
Order No. R-

*to perforate the subject well in the  
Penrose Skelly (Grayburg)  
Oil Pool and*

*Exhibit*

(3) That pursuant to authority granted by Order No. DC-774 the subject well was completed as a dual completion (conventional) to produce oil from the Tubb and Drinkard <sup>Oil</sup> Pools.

(4) That the Tubb and Drinkard zones in the subject well are now capable of only low marginal production.

(5) That the applicant now proposes to complete <sup>said</sup> ~~the subject~~ well in such a manner as to <sup>and to produce said commingled production</sup> ~~produce oil~~ from the Tubb and Drinkard Oil Pools through one string of <sup>2 3/8</sup> 2-inch tubing and to produce <sup>the anticipated low marginal oil production</sup> ~~the low marginal oil production~~ from the Penrose Skelly (Grayburg) Pool through a parallel string of 2 3/8-inch tubing, <sup>Commingled</sup> ~~commingling~~ in the well-bore the production from the Tubb and Drinkard oil zones, with separation of the <sup>Penrose Skelly (Grayburg)</sup> ~~Tubb and Drinkard~~ zones and the commingled <sup>Tubb and Drinkard</sup> ~~Penrose Skelly (Grayburg)~~ zones by means of packers set at approximately 6000 feet and ~~foot~~.

*Draws  
see me if you  
have trouble  
reading this  
Jan*

(6) That the proposed commingling of the Tubb and Drinkard zones may substantially extend the productive lives of said zones.

(7) That the reservoir characteristics of the Tubb and Drinkard zones in the subject well are such that underground waste would not be caused by the proposed commingling in the well-bore.

(8) That the proposed commingling may result in the recovery of additional oil from each of the commingled zones, thereby preventing waste, and will not violate correlative rights.

CASE NO. 4635

Order No. R-

(9) That the mechanics of the proposed completion are feasible and in accord with good conservation practices.

(10) That in order to allocate the commingled production to each of the commingled zones in the subject well, 30% of the commingled oil production should be allocated to the Tubb zone, 70% of the commingled oil production to the Drinkard zone, 15% of the commingled <sup>gas</sup> production to the Tubb zone and 85% of the commingled gas production to the Drinkard zone. ~~the Pennock Shelly (Grayburg) zone.~~ 5th Drinkard zone.

(11) That approval of the subject application will prevent waste and protect correlative rights.

<sup>Administrative</sup>  
(12) That ~~Order No.~~ DC-774 should be superseded.

IT IS THEREFORE ORDERED:

(1) That the applicant, Continental Oil Company, is hereby authorized to complete its Lockhart A-17 Well No. 4, located in NE 1/4 NE 1/4 of Section 17, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, in such a manner as to produce oil from the ~~Tubb Oil Pool~~ <sup>Pennock Shelly (Grayburg) Pool</sup> through one string of ~~2 3/8~~ <sup>2 3/8</sup>-inch tubing and to produce oil from the ~~Drinkard Pool~~ <sup>Tubb and</sup> through a single parallel string of 2 3/8-inch tubing, commingling in the well-bore the production from the Tubb and Drinkard Pools, with separation of the ~~Tubb~~ <sup>Pennock Shelly (Grayburg)</sup> zone and the commingled ~~Drinkard~~ <sup>Tubb and</sup> zones by means of ~~packers~~ <sup>packers</sup> set at approximately 6000 feet.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

CASE NO. 4635  
Order No. R-

PROVIDED FURTHER, that the applicant shall notify the Commission of any substantial increase of the gas-oil ratio of the commingled zones.

(2) That 30% of the commingled oil production shall be allocated to the Tubb zone, 20% of the commingled oil production to the Drinkard zone, and 15% of the commingled ~~gas production to the Tubb zone and 85% of the commingled gas~~ ~~to the Pennell-Skelley (Grayburg) zone~~ ~~production to the Drinkard zone.~~

(3) That the commingling in the well-bore authorized by this order shall continue only so long as the commingled production of the two zones does not exceed 40 barrels of oil per day nor 80 barrels of water per day.

(4) That the maximum amount of ~~oil~~ <sup>gas</sup> which may be produced daily from the commingled zones in the subject well shall be determined by multiplying 2,000 by the top unit allowable for the Tubb and ~~Drinkard~~ pool.

(5) That <sup>Administrative</sup> Order No. DC-724 hereby superseded.

(6) 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.