

EXHIBIT "B"

SAMPLE CALCULATION SHOWING THE TIME REQUIRED  
TO PAYOUT ALL DRILLING AND OPERATING COSTS  
OF A 10,000' WELL AND A 7000' WELL WITH AN  
ALLOWABLE OF 45 B/D IN LEA COUNTY, NEW MEXICO

Estimated cost of drilling and completing, equipping to  
flow, and installing tank battery for a 10,000' well—\$270,000

Estimated operating cost (flowing)-----\$120/mo.

Daily allowable----- 45 B/D

Monthly Revenue as follows:

$$\begin{aligned} 45 \times 30.4 \times 0.875 \times 0.95 \times 1.02 &= \$1180/\text{mo.} \\ \text{Less operating expense} &= \underline{120/\text{mo.}} \\ \text{Net Profit} &= \$1040/\text{mo.} \end{aligned}$$

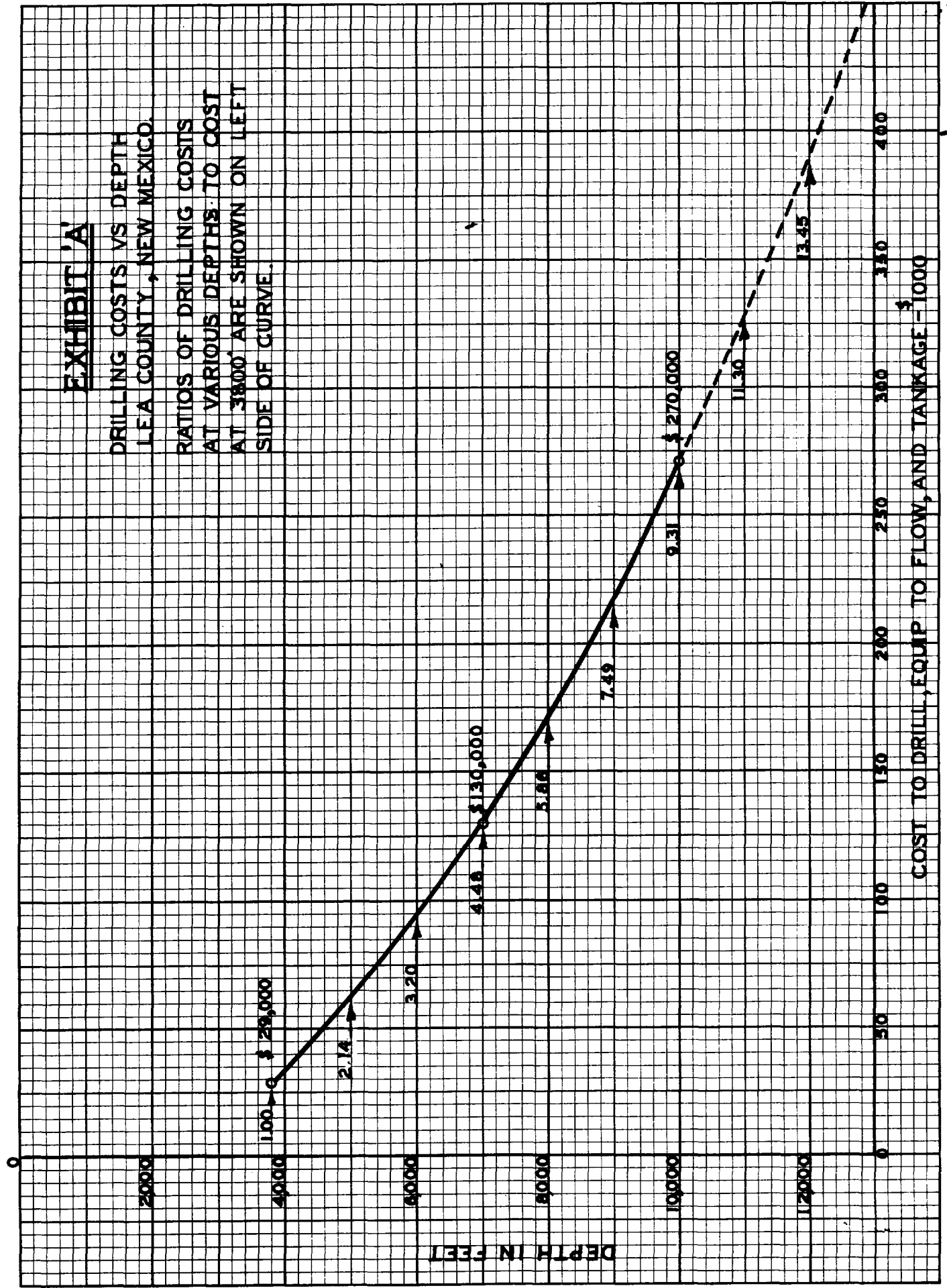
$$\text{Payout Time (undiscounted)} = \frac{\$270,000}{1040} = 259 \text{ months} = \underline{21.6 \text{ yrs.}}$$

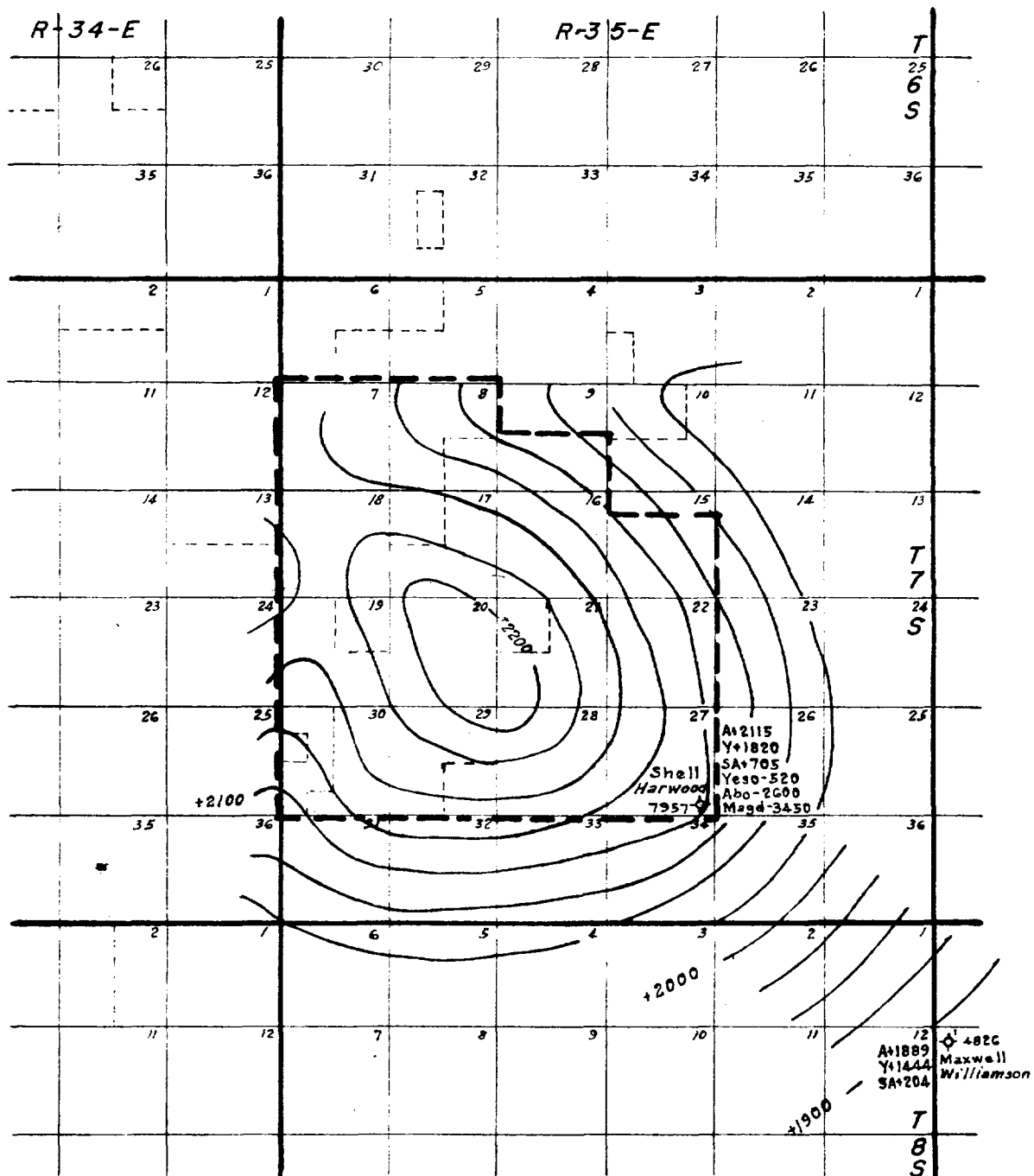
Estimated cost of drilling and completing, equipping to  
flow, and installing tank battery for a 7000' well-----\$130,000

$$\text{Payout Time (undiscounted)} = \frac{\$130,000}{1040} = 125 \text{ months} = \underline{10.4 \text{ yrs.}}$$

$$\text{Payout Time (discounted at 5\% per year)} = \underline{14.5 \text{ yrs.}}$$

*See also page 10 of this report*





CONTINENTAL OIL CO.

MILNESAND BLOCK

ROOSEVELT CO., N. M.

Contours on Core Drill Marker "A"

Contour Interval = 25 feet.

April 1945

Worked on 1941

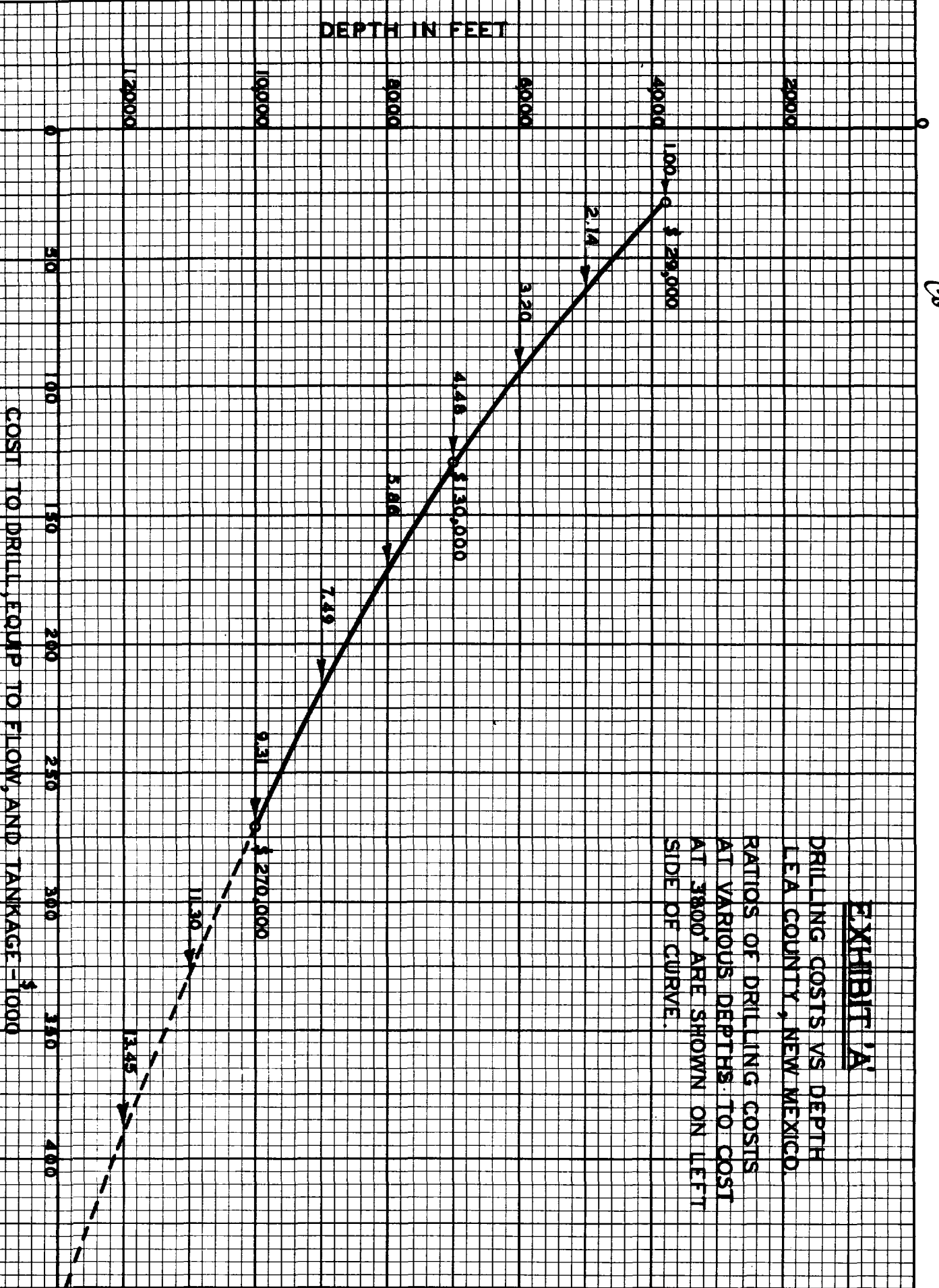


*Self A 12*  
*Cost*

# EXHIBIT 'A'

DRILLING COSTS VS DEPTH  
LEA COUNTY, NEW MEXICO.

RATIOS OF DRILLING COSTS  
AT VARIOUS DEPTHS TO COST  
AT 3800' ARE SHOWN ON LEFT  
SIDE OF CURVE.



Gulf  
Ex B  
Case 62  
City

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Estimated cost of drilling and completing, equipping to  
flow, and installing tank battery for a 10,000' well---\$270,000

Estimated operating cost (flowing)-----\$120/mo.

Daily allowable----- 45 B/D

Monthly Revenue as follows:

$$\begin{aligned} 45 \times 30.4 \times 0.875 \times 0.95 \times 1.02 &= \$1160/\text{mo.} \\ \text{Less operating expense} &= \underline{120/\text{mo.}} \\ \text{Net Profit} &= \$1040/\text{mo.} \end{aligned}$$

$$\text{Payout Time (undiscounted)} = \frac{\$270,000}{1040} = 259 \text{ months} = \underline{21.6 \text{ yrs.}}$$

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# L CONSERVATION COMMISSIO

SANTA FE, NEW MEXICO

LEA COUNTY OPERATORS COMMITTEE

DRAWER I

HOBBS, NEW MEXICO

To New Mexico Oil Conservation Commission  
Santa Fe, New Mexico

Gentlemen:-

Re: Case 62 - Allowable for deep pools

In accordance with your letter of September 18, 1945, the undersigned called a meeting of the committee. This meeting was held at the La Fonda Hotel in Santa Fe, New Mexico on September 28, 1945, at 2:00 P.M. A list of the persons present, absent or represented by an alternate is as follows:

|                      |                      |                  |                   |
|----------------------|----------------------|------------------|-------------------|
| James M. Murray      | Me-Tex Supply Co.    | Hobbs, N.M.      | Absent            |
| S. G. Sanderson      | Gulf Oil Corp.       | Tulsa, Okla.     | Alternate         |
| E. G. Gallagher      |                      | Hobbs, N. M.     |                   |
| Harve H. Mayfield    | Magnolia Pet. Co.    | Kermit, Texas    | Alternate         |
| Dan C. Williams, Jr. |                      | Dallas, Texas    |                   |
| C. B. Williams       | The Texas Co.        | Fort Worth, Tex. | Alternate         |
| A. E. Willig         |                      | " " "            |                   |
| Hiram M. Dow         | Attorney             | Roswell, N.M.    | Absent            |
| Col. J. D. Atwood    | Gulf Attorney        | " " "            | Present           |
| Harry Leonard        | Leonard Oil Co.      | "                | Absent            |
| D. D. Bodie          | Cities Service       | Hobbs, N.M.      | Present           |
| Weldon Brigance      | Rowan Drlg. Co.      | Fort Worth, Tex. | Present           |
| Hugh Sawyers         | N.M. Oil & Gas Assn. | Roswell, N.M.    | Present           |
| Francis Wilson       | Wilson Oil Co.       | Santa Fe         | <del>Absent</del> |
| Bert Aston           | Aston & Fair         | Roswell          | Present           |
| Van Welch            | F.W. & Y. Oil Co.    | Artesia          | Absent            |
| Glenn Staley         | Lea Co. Operators    | Hobbs            | Present           |
| C. P. Roripaugh      | Shell Oil Co.        | Midland, Tex     | Present           |
| C. A. Daniel         | Phillips Petr.       | Okla City        | Present           |
| Barney Cockburn      |                      | Artesia          | Absent            |
| Paul B. English      | A                    | Artesia          | Absent            |
| Sam Sanders          | Sanders Bros         | Artesia          | Present           |
| Foster Morrell       | U.S.G.S.             | Roswell          | Absent            |
| W. E. Scott          | Buffalo Oil Co.      | Artesia          | Present           |
| Raymond Lamb         | Continental Oil Co.  | Hobbs            | Present           |
| John House           | Humble Oil Co.       | Midland, Tex     | Alternate         |
| R. S. Dewey          |                      | Midland          |                   |
| C. P. Miller         | Penrose, Inc.        | Hobbs, N.M.      | Alternate         |
| David Donaghue       |                      | Fort Worth       |                   |
| Lloyd Beddick        | Samedan Oil Co.      | Ardmore, Okla    | Alternate         |
| A. A. Kemnitz        |                      | Hobbs            |                   |
| Fred Turner          |                      | Midland          | Absent            |
| George Card          | Stanolind Oil & Gas  | Fort Worth, Tex. | Present           |

L CONSERVATION COMMISSION  
SANTA FE, NEW MEXICO

Case 62-711

Edgar Kraus                      Atlantic Oil & Rfg. Co.      Dallas, Texas      Present

Visitors:

Chas. E. Yager                      T.P. Coal & Oil Co.              Fort Worth  
John M. Kelly                      Consulting Engineer              Roswell  
J. O. Seth                      Attorney                      Santa Fe

The Committee's report is as follows:

1. That the committee recommends to the commission that the factors submitted by the Gulf at the hearing May 14, 1945, Re: Case No. 62, be considered as a maximum, and be used in determining the allowable for deep wells in Lea and Eddy Counties, New Mexico.

The factors are as follows:

| Depth Range    | FACTOR |
|----------------|--------|
| To 5000'       | 1.00   |
| 5000-6000'     | 1.33   |
| 6000-7000'     | 1.77   |
| 7000-8000'     | 2.33   |
| 8000-9000'     | 3.00   |
| 9000-10,000'   | 3.77   |
| 10,000-11,000' | 4.67 ✓ |
| 11,000-12,000' | 5.67 ✓ |
| 12,000-13,000' | 6.77 ✓ |
| 13,000-14,000' | 8.00   |
| 14,000-15,000' | 9.33   |

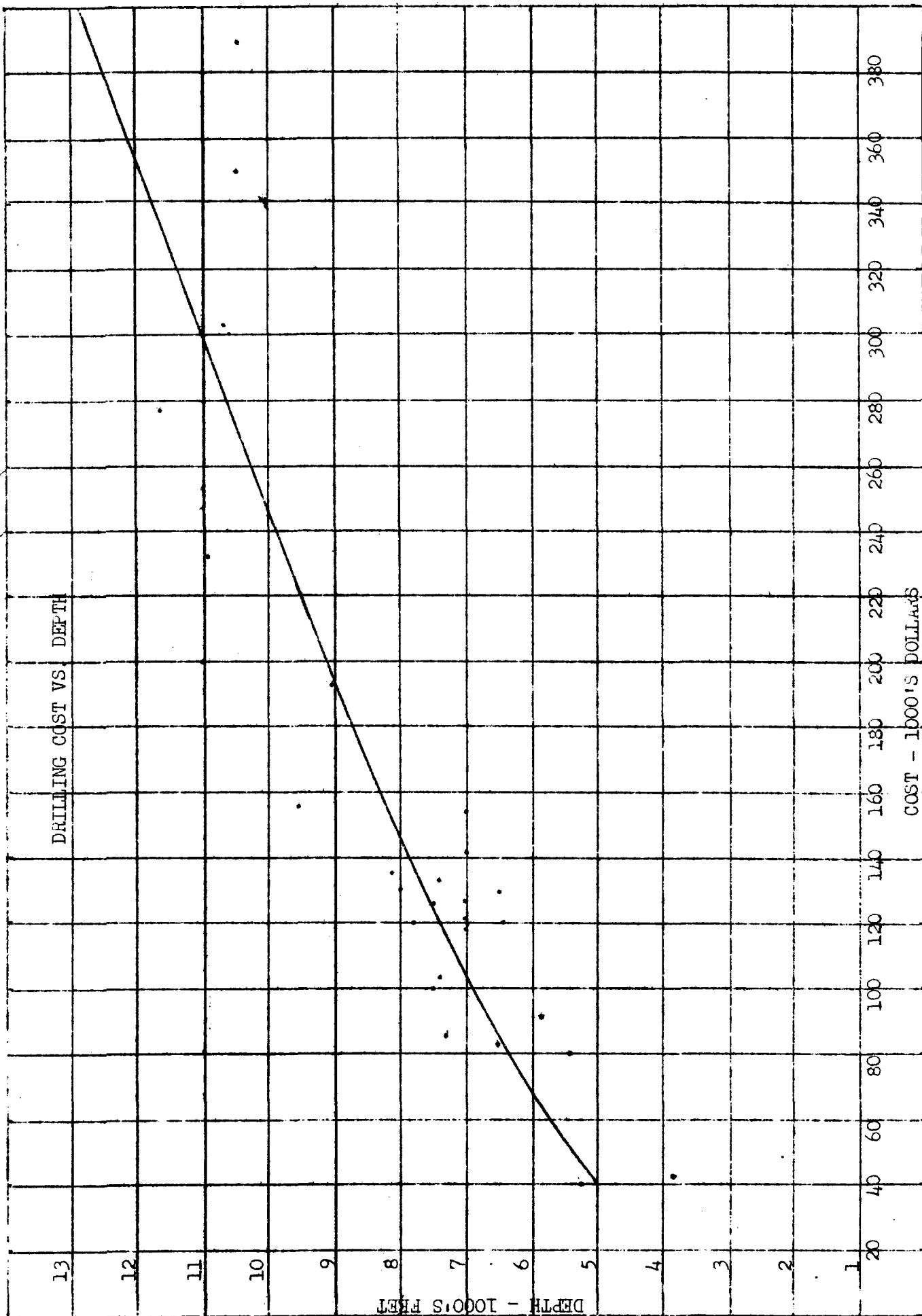
Top unit allowables for each range depth shall be determined by multiplying the normal unit allowable by the proportional factor for each depth range as set out in the table herein above.

2. The Committee recommends that a minimum allowable of 25 barrels of oil daily for wells in Lea and Eddy Counties below which non-marginal wells will not be cut, due to extra allowable to wells drilled below 5000'.

Respectfully submitted

(SGD)      Glenn Staley  
            Chairman

C  
O  
P  
Y



COSTS TAKEN FROM CURVE

| <u>Depth</u> | <u>Cost</u> |
|--------------|-------------|
| 5000         | \$ 40,000   |
| 6000         | 72,000      |
| 7000         | 107,000     |
| 8000         | 145,000     |
| 9000         | 186,000     |
| 10000        | 233,500     |
| 11000        | 290,500     |
| 12000        | 357,000     |
| 13000        | 435,000     |

## EXAMPLE

## PROPOSAL # 1

| <u>Depth Range</u> | <u>Factor</u> |
|--------------------|---------------|
| To 5000'           | 1.00          |
| 5000-6000'         | 1.33          |
| 6000-7000'         | 1.77          |
| 7000-8000'         | 2.33          |
| 8000-9000'         | 3.00          |
| 9000-10,000'       | 3.77          |
| 10,000-11,000'     | 4.67          |
| 11,000-12,000'     | 5.67          |
| 12,000-13,000'     | 6.77          |
| 13,000-14,000'     | 8.00          |
| 14,000-15,000'     | 9.33          |

EXAMPLE

Assuming top allowable per well to 5000 feet in depth is 45 barrels per day:

| <u>Depth Interval</u> | <u>Factor</u> | <u>Allowable</u><br><u>Bbl.</u> | <u>ALLOWable</u><br><u>Increase above</u><br><u>0-5000'</u><br><u>Interval</u><br><u>Bbl.</u> | <u>Allowable</u><br><u>Increase</u><br><u>above pre-</u><br><u>ceding 1000'</u><br><u>bracket</u><br><u>Bbl.</u> |
|-----------------------|---------------|---------------------------------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| To 5000'              | 1.0           | 45                              | -                                                                                             | -                                                                                                                |
| 5000-6000'            | 1.33          | 60                              | 15                                                                                            | 15                                                                                                               |
| 6000-7000'            | 1.77          | 80                              | 35                                                                                            | 20                                                                                                               |
| 7000-8000'            | 2.33          | 105                             | 60                                                                                            | 25                                                                                                               |
| 8000-9000'            | 3.00          | 135                             | 90                                                                                            | 30                                                                                                               |
| 9000-10,000'          | 3.77          | 170                             | 125                                                                                           | 35                                                                                                               |
| 10,000-11,000'        | 4.67          | 210                             | 165                                                                                           | 40                                                                                                               |
| 11,000-12,000'        | 5.67          | 255                             | 210                                                                                           | 45                                                                                                               |
| 12,000-13,000'        | 6.77          | 305                             | 260                                                                                           | 50                                                                                                               |
| 13,000-14,000'        | 8.00          | 360                             | 315                                                                                           | 55                                                                                                               |
| 14,000-15,000'        | 9.33          | 420                             | 375                                                                                           | 60                                                                                                               |

MARGINAL AND NON-MARGINAL WELLS IN SOUTHEASTERN NEW MEXICO AS OF SEP. 1945

44 BBLs. TOP ALLOWABLE FOR SEPTEMBER, 1945

STATE ALLOCATION 108,000 BBLs. DAILY

| FIELD                | COUNTY    | NO. OF<br>NON-<br>MARG.<br>WELLS | NO. OF<br>MARG-<br>INAL<br>WELLS | DAILY<br>MARGINAL<br>WELL<br>ALLOCATION | AVG. DAILY<br>MARGINAL<br>ALLOCATION<br>PER WELL |
|----------------------|-----------|----------------------------------|----------------------------------|-----------------------------------------|--------------------------------------------------|
| Anderson             | Eddy      | 1                                | 22                               | 215 bbls.                               | 9.77 bbls.                                       |
| Arrowhead            | Lea       | 111                              | 13                               | 240 "                                   | 18.46 "                                          |
| Artesia              | Eddy      | 4                                | 140                              | 505 "                                   | 3.6 "                                            |
| Atoka                | Eddy      |                                  | 1                                | 2 "                                     | 2 "                                              |
| Barber               | Eddy      | 2                                | 8                                | 129 "                                   | 16.12 "                                          |
| Benson               | Eddy      | 1                                | 3                                | 90 "                                    | 30 "                                             |
| Caprock              | Lea       | 16                               | 1                                | 9 "                                     | 9 "                                              |
| Cooper-Jal           | Lea       | 28                               | 92                               | 1361 "                                  | 14.79 "                                          |
| Corbin               | Lea       |                                  | 2                                | 10 "                                    | 5 "                                              |
| Daugherty            | Eddy      |                                  | 1                                | 7 "                                     | 7 "                                              |
| Dayton               | Eddy      |                                  | 13                               | 73 "                                    | 5.61 "                                           |
| East Dayton          | Eddy      |                                  | 1                                | 12 "                                    | 12 "                                             |
| Drinkard-Yeso        | Lea       | 8                                |                                  |                                         |                                                  |
| Dublin-Ellenberger   | Lea       | 1                                |                                  |                                         |                                                  |
| Eaves                | Lea       | 18                               | 5                                | 103 "                                   | 20.60 "                                          |
| Empire               | Eddy      | 2                                | 70                               | 272 "                                   | 3.88 "                                           |
| Eunice-Monument      | Lea       | 720                              | 255                              | 4320 "                                  | 16.94 "                                          |
| Euhice, South        | Lea       | 16                               | 64                               | 929 "                                   | 14.51 "                                          |
| Eunice, West         | Lea       | 20                               | 6                                | 150 "                                   | 25 "                                             |
| Getty                | Eddy      | 1                                | 7                                | 156 "                                   | 22.28 "                                          |
| Grayburg-Jackson     | Eddy      | 45                               | 228                              | 3966 "                                  | 17.39 "                                          |
| Halfway              | Lea       | 3                                | 3                                | 40 "                                    | 13.33 "                                          |
| Hardy                | Lea       |                                  | 38                               | 322 "                                   | 8.47 "                                           |
| Henshaw              | Eddy      |                                  | 1                                | 2 "                                     | 2 "                                              |
| High Lonesome        | Eddy      |                                  |                                  |                                         |                                                  |
| High Lonesome, South | Eddy      |                                  | 1                                | 4 "                                     | 4 "                                              |
| Hobbs                | Lea       | 235                              | 17                               | 393 "                                   | 23.11 "                                          |
| Langlie-Mattix       | Lea       | 17                               | 298                              | 3356 "                                  | 11.26 "                                          |
| Lea                  | Lea       |                                  | 1                                | 5 "                                     | 5 "                                              |
| Leo                  | Eddy      |                                  | 6                                | 43 "                                    | 7.16 "                                           |
| Loco Hills           | Eddy      | 1                                | 11                               | 100 "                                   | 9.09 "                                           |
| Loco Hills Repress.  | Eddy      | (36)                             | 146                              | 2834 "                                  | 19.41 "                                          |
| Lovington            | Lea       | 29                               | 20                               | 516 "                                   | 25.80 "                                          |
| Lovington, West      | Lea       | 41                               |                                  |                                         |                                                  |
| Lusk                 | Lea & Ed. | 1                                | 3                                | 40 "                                    | 13.33 "                                          |
| Lusk, East           | Lea       |                                  | 4                                | 52 "                                    | 13 "                                             |
| Lusk, West           | Eddy      |                                  | 2                                | 27 "                                    | 13.5 "                                           |
| Lynch                | Lea       | 6                                | 3                                | 40 "                                    | 13.33 "                                          |
| Lynch, North         | Lea       |                                  | 1                                | 14 "                                    | 14 "                                             |
| Maljamar             | Lea       |                                  | 61                               | 1545 "                                  | 25.32 "                                          |
| Maljamar Repress.    | Lea       |                                  | 159                              | 4499 "                                  | 28.29 "                                          |
| Maljamar, North      | Lea       |                                  | 2                                | 8 "                                     | 4 "                                              |
| Maljamar, South      | Lea       |                                  | 2                                | 31 "                                    | 15.5 "                                           |
| Paddock              | Lea       | 3                                |                                  |                                         |                                                  |
| P.C.A.               | Eddy      | 1                                | 6                                | 121 "                                   | 20.16 "                                          |
| Penrose-Skelly       | Lea       | 5                                | 350                              | 2468 "                                  | 7.05 "                                           |
| Premier              | Eddy      | 6                                | 69                               | 1236 "                                  | 17.91 "                                          |
| Red Lake             | Eddy      | 8                                | 35                               | 408 "                                   | 11.65 "                                          |
| Rhodes               | Lea       | 15                               | 28                               | 464 "                                   | 16.57 "                                          |
| Roberts              | Lea       |                                  | 2                                | 45 "                                    | 22.5 "                                           |
| Roberts, West        | Lea       | 2                                |                                  |                                         |                                                  |
| Robinson             | Eddy      | 2                                | 12                               | 71 "                                    | 5.91 "                                           |

| FIELD          | COUNTY | NO. OF<br>NON-<br>MARG.<br>WELLS | NO. OF<br>MARG-<br>INAL<br>WELLS | DAILY<br>MARGINAL<br>WELL<br>ALLOCATION | AVG. DAILY<br>MARGINAL<br>ALLOCATION<br>PER WELL |
|----------------|--------|----------------------------------|----------------------------------|-----------------------------------------|--------------------------------------------------|
| Russell        | Eddy   | 13                               | 1                                | 6                                       | 6 bbls.                                          |
| Salt Lake      | Lea    | 1                                | 9                                | 174                                     | 19.33 "                                          |
| San Simon      | Lea    |                                  | 2                                | 14                                      | 7 "                                              |
| Shugart        | Eddy   | 1                                | 10                               | 251                                     | 25.10 "                                          |
| Shugart, North | Eddy   |                                  | 21                               | 161                                     | 7.66 "                                           |
| Skaggs         | Lea    |                                  | 3                                | 62                                      | 20.66 "                                          |
| Skaggs Deep    | Lea    | 2                                |                                  |                                         |                                                  |
| Square Lake    | Eddy   | 16                               | 164                              | 2652                                    | 16.17 "                                          |
| Tonto          | Lea    | 1                                |                                  |                                         |                                                  |
| Turkey Track   | Eddy   |                                  | 9                                | 98                                      | 10.88 "                                          |
| Vacuum         | Lea    | 250                              | 108                              | 1684                                    | 15.59 "                                          |
| Young          | Lea    | 1                                |                                  |                                         |                                                  |
| TOTALS         |        | 1654                             | 2576                             | 36335                                   | 14.10                                            |

|               |                     |   |                                            |
|---------------|---------------------|---|--------------------------------------------|
| Top allowable | 1654 @ 44 bbls. ea. | - | 72776 bbls.                                |
| Marginal      | <u>2576 @</u>       | - | <u>36335 "</u>                             |
|               | 4230                |   | 109111 Daily alloc. for<br>September, 1945 |

fraction gained on top allow. wells - .672  
 $1654 \times .672 = 1111$

OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico

James M. Murray Sr., ✓  
Me-Tex Supply Co.,  
Hobbs, N.M.

C.B. Williams *Williams*  
District Manager  
Texas Company  
Fort Worth, Texas

Hiram M. Dow  
Roswell, N.M.

S.G. Sanderson  
Asst. to Vice-President  
Gulf Oil Corporation  
Tulsa, Okla.

Col. J.D. Atwood ✓  
Roswell, N.M.

Harry Leonard  
Leonard Oil Co.,  
Roswell, N.M.

D.D. Bodie ✓  
Cities Service Oil Co.,  
Hobbs, N.M.

Weldon Brigrance ✓  
Rowan Drilling Co.,  
Commercial Standard Bldg.,  
Fort Worth, Texas

Hugh Sawyers ✓  
N.M. Oil and Gas Assn.,  
Roswell, N.M.

Francis Wilson  
Wilson Oil Co  
Santa Fe, N.M.

Fort Aston ✓  
Aston & Fair Inc.,  
Roswell, N.M.

Van Welch  
Flynn, Welch & Yates Oil Co.,  
Artesia, N.M.

Glenn Staley ✓  
Lea County Operators  
Hobbs, N.M.

*Have Mayfield*  
*Magnolia Oil Co*  
*Kennel, Texas*

Charles P. Rozipaugh ✓  
Division Manager  
Shell Oil Co.,  
Midland, Texas

Charles A. Daniel ✓  
General Manager  
Phillips Petroleum Co.,  
Oklahoma City, Okla.

Barney Cockburn  
Artesia, N.M.

Paul B. English ✓  
Artesia, N.M.

Sam Sanders ✓  
Sanders Brothers ✓  
Artesia, N.M.

Foster Morrell  
U.S.G.S.  
Roswell, N.M.

W.E. Scott ✓  
Buffalo Oil Co.,  
Artesia, N.M.

Raymond Lamb ✓  
Continental Oil Co  
Hobbs, N.M.

Mr. John House ✓  
Humble Oil Co.,  
Midland, Texas

G.P. Miller *Handwritten signature*  
Neville Penrose Inc.,  
Hobbs, N.M.

Lloyd Biddick *Handwritten signature*  
Samedon Oil Co.,  
Ardmore, Okla.

Fred Turner  
Midland, Texas

George Card ✓  
Stanolind Oil Co.,  
Fort Worth, Texas

Edgar Kraus ✓  
Atlantic Oil & Refining Co  
Dallas, Texas