WATER FLOOD DATA FOR HEARING
Before
NEW MEXICO OIL CONSERVATION COMMISSION

July 11, 1956
Hobbs, New Mexico.

OPERATOR: Barney Cockburn

NAME OF FIELD: East Maljamar

NAME & LOCATION OF LEASES:

Wyatt-Phillips

NE¼NW¼; S½NW¼; SW¼NE¼ section 33; NW¼ section 34 all in township 17 South, range 33 East, Lea County, New Mexico, containing 320 acres, more or less.

Cockburn-Federal

N½S½ section 33; N½S½ section 34 all in township 17 South, range 33 East, Lea County, New Mexico; containing 320 acres, more or less.

EXHIBITS:

1. Plat (colored) showing leases
2. Structure contour map drawn on top of Queen Sand
3. Production history by wells, by years
4. Tabulated data. (follows in this paper)

RESERVOIR AND FLUID CHARACTERISTICS:

1. Name of formation to be water flooded is Queen Sand
2. Estimated productive area is 520 acres
3. Composition of formation is Sand
4. Structure is small plunging anticline, or nose
5. Type of reservoir drive is solution gas plus expanding gas cap
6. Original reservoir pressure has been estimated as approximately 560 pounds per square inch.
7. Present reservoir pressure determined on offset wells recently, at subsea depth of plus 418 feet show a maximum of 440 pounds and a minimum of 305 pounds
8. Gas cap was present in original status of field
9. Gas cap exists at present time
10. Average thickness of effective pay is estimated to be 12 feet
11. Average depth to pay is approximately 3850 feet
12. Average porosity (estimated from nearby core analysis) 14.5%
13. Average permeability(estimated as above) 60 millidarcies
14. Connate water content(estimated as above) is 40% of pore space
15. Gravity of oil averages approximately 35 degrees API
16. Viscosity of oil is estimated to be 4 centipoises.

PRIMARY PRODUCTION PERFORMANCE:

1. Date first well completed was January 1951 (#1 Federal)
2. Wells produce no water
3. Stage of present depletion is estimated to be 25%
4. Number of wells now producing is 12
5. Present daily production per well averages 18 barrels oil
6. Present estimated oil saturation is 55% of pore space
7. Gas repressuring has not been used in this area
8. Gas oil ratio was estimated as originally having been less than 400 cubic feet per barrel
9. Gas oil ratio at present(as reported on Commission Form C-116) is estimated to be approximately 400 cubic feet per barrel.

Primary Production Performance -cont'd.

10. Initial production of each well; date of completion, and current production on tabulation attached hereto.

INJECTION DATA:

1. Source of water for injection will be shallow sand at depth of approximately 125 feet
2. Injection water will be fresh
3. Injection water probably will be treated with Bactericide and a corrosion inhibitor
4. Injection wells will probably be Wyatt-Phillips No. 5, 6 and 8. Exact pattern will be decided later
5. No initial injection pressure is anticipated
6. The initial volume of water anticipated for injection will be 200 barrels per well per day
7. The ultimate injection volume anticipated is 200 barrels per well per day
8. The ultimate surface pressure anticipated is 500 pounds

RESULTS ANTICIPATED:

1. Estimated additional oil recovery as direct result of flooding is 5,118 barrels per flooded acre
2. Estimated residual oil at abandonment is 25% of pore space.

TABULATION OF ITEM 10 ABOVE (Primary Production Performance)

Barney Cockburn

Federal Leases & wells

Location	Completion Date	I. P.	Present Prod.
#1 1650' fr. SL 330' fr. EL Sec. 33-17S-33E	1-23-51	P 120/Day	P 25/Day
#2 1650 fr. SL 330' fr. WL Sec. 34-17S-33E	4-20-51	P 130/Day	P 20/Day
#3 2310 fr. SL 1650 fr. EL Sec. 33-17S-33E	6-8-51	F 65/Day	Grayburg
#4 1650 fr. SL 1650 fr. WL Sec. 34-17S-33E	8-29-53	F 120/Day	F 37/Day
#5 2310 fr SL 330 fr WL Sec. 33-17S-33E	1-7-54	F 72/Day	F 6/Day
#6 2310 fr SL 2310 fr EL Sec. 34-17S-33E	4-12-55	F 180/Day	F 40/Day
#7 2310 fr SL 330 fr EL Sec. 33-17S-33E	11-3-55	P 53/Day	P 27/Day
#8 2310 fr SL 330 fr WL Sec. 34-17S-33E	1-3-56	P 63/Day	P 20/Day

Phillips-Wyatt lease & wells

#1 1980 fr NL 660 fr WL Sec 33-17S-33E	8-26-47	F 70/Day	9/Day
#3 1650 fr NL 330 fr WL Sec. 33-17S-33E	6-18-52	F 35/Day	Grayburg
#4 1650 fr,NL 1650 fr WL Sec 33-17S-33E	12-21-52	F 35/Day	F 10/Day
#5 990 fr NL 1650 fr WL Sec. 33-17S-33E	1-26-55	P 40/Day	Grayburg
#6 2310 fr NL 330 fr WL Sec 34-17S-33E	2-17-54	F 130/day	F 10/Day

Tabulation of Item 10 Above (Primary Production Performance) cont'd.

Phillips-Wyatt lease & wells

#7 2310 fr NL 1650 fr WL Sec 34-17S-33E	4-15-54	F	35/Day	F 30/Day
#8 990 fr NL 330 fr WL Sec 34-17S-33E	5-15-54	P	45/Day	Grayburg
#9 990 fr NL 1650 fr WL Sec 34-17S-33E	2-18-55	P	34/Day	Grayburg
#10 1650 fr NL 1650 fr EL Sec 33-17S-33E	3-28-55	P	35/Day	Grayburg
#11 1980 fr NL 1650 fr EL Sec 34-17S-33E	1-31-56	P	34/Day	P 35/Day
#12 660 fr NL 1980 fr WL Sec 33-17S-33E	1-14-56	P	37/Day	Grayburg