c/s f

N MEXICO OIL CONSERVATION COM SION

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED
OCT 14 1982
O. C. D.
ARTESIA, OFFICE

Type Test: [X] Initial [ ] Annual [ ] Special — Test Date: 9-16-82

Company: Mesa Petroleum Co. — Connection: Unconnected — Unit:

Pool: Undesignated ABO — Formation: ABO

Completion Date: 9-16-82 — Total Depth: 3211' — Plug Back TD: 2914' — Elevation: 3906' — Farm or Lease Name: China Fed

| Csg. Size | Wt. | d | Set At | Perforations | Well No. |
|---|---|---|---|---|---|
| 4-1/2 | 10.5# | | 2960' | From 2691' To 2836' | 13 |

| Tbg. Size | Wt. | d | Set At | Perforations | Unit | Sec. | Twp. | Rge. |
|---|---|---|---|---|---|---|---|---|
| 2-3/8 | 4.7# | | 2793' | From open ended To | L | 20 | 7S | 23E |

Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single — Packer Set At: None — County: Chaves

Producing Thru: Tubing — Reservoir Temp. °F: 98° @ 3211' — Mean Annual Temp. °F: 60 — Baro. Press. – $P_a$: 13.2 — State: New Mexico

| L | H | Gg | % $CO_2$ | % $N_2$ | % $H_2S$ | Prover | Meter Run | Taps |
|---|---|---|---|---|---|---|---|---|
| | | .65 | 1 | 1 | | 2" Critical Flow Prover | | |

## FLOW DATA / TUBING DATA / CASING DATA

| NO. | Prover Line Size X Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | Tubing Press. p.s.i.g. | Tubing Temp. °F | Casing Press. p.s.i.g. | Casing Temp. °F | Duration of Flow |
|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | 830 | | 830 | | 62 hr SI |
| 1. | 2" x 1" | 35 | | 30 | 790 | 62 | 800 | | 1 hr. |
| 2. | 2" x 1" | 63 | | 32 | 745 | 61 | 760 | | 1 hr. |
| 3. | 2" x 1" | 98 | | 40 | 665 | 62 | 730 | | 1 hr. |
| 4. | 2" x 1" | 122 | | 46 | 590 | 62 | 690 | | 1 hr. |
| 5. | | | | | | | | | |

## RATE OF FLOW CALCULATIONS

| NO. | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure $P_m$ | Flow Temp. Factor Ft. | Gravity Factor Fg | Super Compress. Factor, Fpv | Rate of Flow Q, Mcfd |
|---|---|---|---|---|---|---|---|
| 1 | 17.09 | Flow Prover | 48 | 1.030 | 1.24 | | 1047 |
| 2. | " | " " | 76 | 1.028 | 1.24 | | 1655 |
| 3. | " | " " | 111 | 1.020 | 1.24 | | 2399 |
| 4. | " | " " | 135 | 1.014 | 1.24 | | 2900 |
| 5. | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1. | | | | |
| 2. | | | | |
| 3. | | | | |
| 4. | | | | |
| 5. | | | | |

Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
Specific Gravity Separator Gas _____ XXXXXXXXXX
Specific Gravity Flowing Fluid XXXXX _____
Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
Critical Temperature _____ R _____ R

$P_c$ 843 $P_c^2$ 711

| NO | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | | 813 | 661 | 50 |
| 2 | | 773 | 598 | 113 |
| 3 | | 743 | 552 | 159 |
| 4 | | 703 | 494 | 217 |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 3.2764$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.2679$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 6,600$

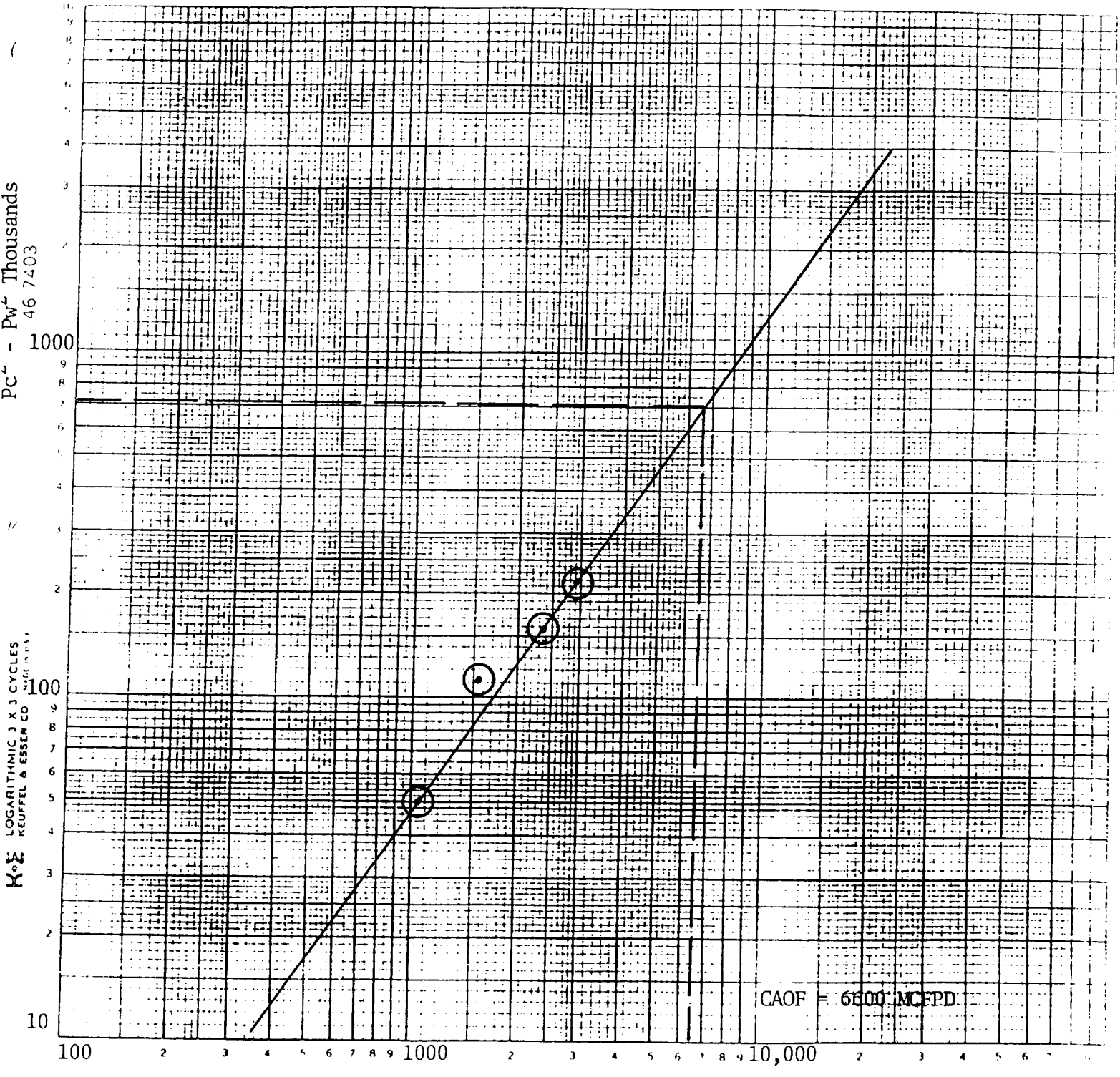
Post FD-2
10-22-82
Comp + BK

Absolute Open Flow 6,600 Mcfd @ 15.025 — Angle of Slope θ 55° — Slope, n .69

Remarks:

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | James Craig | E. L. Buttross, Jr. 9-20-82 | |

MESA PETROLEUM CO.
China Fed No. 13
Chaves County, New Mexico
9-20-82




$$1/\text{Slope} = \frac{\text{Log } Q_2 - \text{Log } Q_1}{\text{Cycle}} = \frac{\text{Log } 8500 - \text{Log } 1725}{\text{Cycle}} = 3.92 - 3.23 = .69$$

$\theta = 55^{o}$