

Submit in duplicate to
appropriate district office
See Rule 401 & Rule 1122

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

| | | | | | | | | | | | | | | |
|---|--|--------------------|-------------------------------------|-------------------|--|---|--|--|--|--|------------------------------------|---|--|--|
| Operator Meridian Oil Inc. | | | | | | Lease or Unit Name C. W. Shepherd Federal | | | | | | | | |
| Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special | | | | | | Test Date 9-20-91 | | | Well No. 8 | | | | | |
| Completion Date 9-7-91 | | | Total Depth 3100 | | | Plug Back TD 3057 | | | Elevation 2972.6' GR | | | Unit Ltr. - Sec. - TWP - Rge. 5 26S 37E | | |
| Csg. Size 4 1/2 | | Wt. 11.6 | | d 1.995 | | Set At 3100 | | Perforations: From: 2743 To: 2985 | | | County Lea | | | |
| Tbg. Size 2 3/8 | | Wt. 4.7 | | d 1.995 | | Set At 2687 | | Perforations: From: To: | | | Pool Rhodes-Yates-7 Rvrs | | | |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single | | | | | | Packer Set At None | | | Formation Yates | | | | | |
| Producing Thru Tubing L 2687 | | | Reservoir Temp. °F H 2687 | | | Mean Annual Temp. °F Gg .667 | | | Baro. Press - P _a % CO₂ 2.22 | | | Connection % N₂ 1.48 | | |
| | | | | | | | | | % H₂S | | | Prover Meter Run 3.068 | | |
| | | | | | | | | | | | | Taps Flange | | |

| FLOW DATA | | | | | | TUBING DATA | | | CASING DATA | | Duration of Flow |
|-----------|------------------|---|--------------|-----------------|----------------------|-------------|-----------------|----------|-----------------|----------|------------------|
| NO. | Prover Line Size | X | Orifice Size | Press. p.s.i.g. | Diff. h _w | Temp. °F | Press. p.s.i.g. | Temp. °F | Press. p.s.i.g. | Temp. °F | |
| SI | | | | | | | 312 | | 0 | | 24 hrs. |
| 1. | 3 | X | 1.625 | 40 | 13.00 | 42 | 291 | 42 | 0 | | 45 mins. |
| 2. | 3 | X | 1.625 | 40 | 25.00 | 42 | 278 | 42 | 0 | | 1 hr. |
| 3. | 3 | X | 1.625 | 40 | 40.00 | 42 | 262 | 42 | 0 | | 1 hr. |
| 4. | 3 | X | 1.625 | 40 | 54.00 | 42 | 246 | 42 | 0 | | 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 F _g | Super Compress. Factor, F _{pv} | Rate of Flow Q, Mcfd |
| 1. | 13.24 | 26.30 | 53.2 | 1.018 | 1.224 | 1.008 | 437 |
| 2. | 13.24 | 36.47 | 53.2 | 1.018 | 1.224 | 1.008 | 607 |
| 3. | 13.24 | 46.13 | 53.2 | 1.018 | 1.224 | 1.008 | 767 |
| 4. | 13.24 | 53.60 | 53.2 | 1.018 | 1.224 | 1.008 | 891 |
| 5. | | | | | | | |

| NO. | P _r | Temp. °R | T _r | Z | DRY GAS | | |
|-----|----------------|----------|----------------|------|---|--|--|
| 1. | .07 | 502 | 1.34 | .985 | Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl. | | |
| 2. | .07 | 502 | 1.34 | .985 | A.P. I. Gravity of Liquid Hydrocarbons DRY _____ Deg. | | |
| 3. | .07 | 502 | 1.34 | .985 | Specific Gravity Separator Gas .667 _____ XXXXXXXXXXXX | | |
| 4. | .07 | 502 | 1.34 | .985 | Specific Gravity Flowing Fluid _____ XXXXX | | |
| 5. | .07 | 502 | 1.34 | .985 | Critical Pressure *677 _____ P.S.I.A. _____ P.S.I.A. | | |
| | | | | | Critical Temperature *372 _____ R _____ R | | |

P_c 325.2 P_c² 105.8

| NO. | P _t ² | P _w | P _w ² | P _c ² - P _w ² |
|-----|-----------------------------|----------------|-----------------------------|---|
| 1. | | 307.5 | 94.6 | 11.2 |
| 2. | | 297.9 | 88.7 | 17.0 |
| 3. | | 286.4 | 82.0 | 23.7 |
| 4. | | 275.1 | 75.7 | 30.1 |
| 5. | | | | |

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.464$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.160$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.424$

| | | |
|---|-------------------------------------|----------------------|
| Absolute Open Flow 2,424 Mcfd @ 15.025 | Angle of Slope Θ 52.5 | Slope, n .769 |
|---|-------------------------------------|----------------------|

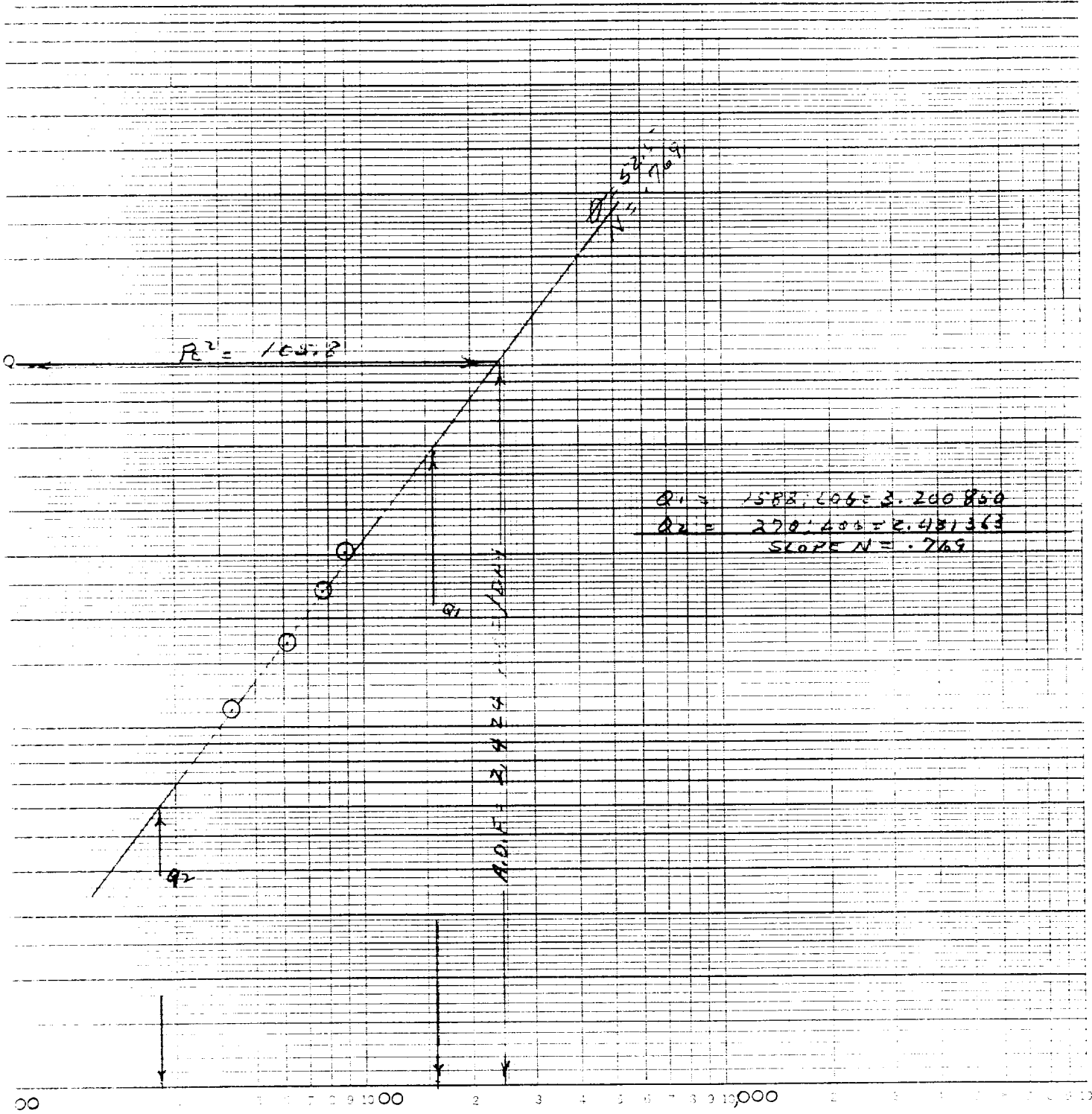
Remarks: *=corrected to 2.22% CO₂ & 1.48 % N₂

NO FLUID PRODUCED DURING TEST

| | | | |
|----------------------|--|-----------------------------|--------------------------|
| Approved By Division | Conducted By: Pro Well Testers | Calculated By: BM | Checked By: BM |
|----------------------|--|-----------------------------|--------------------------|

Meridian Oil Company
 C. W. Shepherd Fed. No. 8
 5 - 26-S - 37-E
 Lea County, New Mexico
 09-20-91

PC²-PW² (thsnds)



Q MCF/DAY