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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-122
Revised 4-1-91

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OIL CONSERVATION DIV.

# OIL CONSERVATION DIVISION

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

## MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Operator: KCS MEDALLION RESOURCES, INC. | | | | | | Lease or Unit Name: STATE OF NEW MEXICO 20 | | | |
| Type Test: [X] Initial [ ] Annual [ ] Special | | | | | | Test Date: 5-30-97 | | Well No.: 1 | |
| Completion Date: 5-9-97 | | Total Depth: 11450' | | Plug Back TD: 11351' | | Elevation: 3242' GL | | Unit Ltr. - Sec. - TWP - Rge.: A 20-20S-28E | |
| Csg. Size: 5½" | Wt.: 17/20 | d: 4.892" / 4.778" | Set At: 11425 | Perforations: From: 11341' | To: 11349' | | | County: EDDY | |
| Tbg. Size: 2-7/8" | Wt.: 6.5 | d: 2.441" | Set At: 11002' | Perforations: From: | To: | | | Pool: BURTON FLAT MORROW GA. | |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple: SINGLE | | | | Packer Set At: 10984' | | | | Formation: MORROW | |
| Producing Thru: TBG | Reservoir Temp. °F: 181 | Mean Annual Temp. °F: 60° | | Baro. Press - $P_a$: 13.2 | | | | Connection: HIGHLAND | |
| L: 11,002 | H: 11,002 | Gg: .586 | % $CO_2$: .82 | % $N_2$: .17 | % $H_2S$: | Prover: -0- | Meter Run: 3.068 | Taps: flg. | |

| | FLOW DATA | | | | TUBING DATA | | CASING DATA | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 | Duration of Flow |
| SI | | | | | 2500 | | PKR. | | |
| 1. | 3.068 X 1.875 | 455.6 | 1" | 110° | 2330 | | " | | 60 min. |
| 2. | 3.068 X 1.875 | 435.6 | 3.6" | 115° | 2165 | | " | | 60 min. |
| 3. | 3.068 X 1.875 | 442.0 | 7.8" | 108° | 1944 | | " | | 60 min |
| 4. | 3.068 X 1.875 | 449.9 | 13.0" | 100° | 1715 | | " | | 60 min. |
| 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. | 18.29 | 21.2 | 448.8 | .9551 | 1.306 | 1.030 | 498 |
| 2. | 18.29 | 40.2 | 448.8 | .9510 | 1.306 | 1.029 | 939 |
| 3. | 18.29 | 59.6 | 455.2 | .9568 | 1.306 | 1.031 | 1404 |
| 4. | 18.29 | 77.6 | 463.1 | .9636 | 1.306 | 1.033 | 1845 |
| 5. | | | | | | | |

| NO. | $P_r$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1. | .84 | 570 | 1.64 | .942 |
| 2. | .85 | 575 | 1.66 | .944 |
| 3. | .84 | 568 | 1.64 | .940 |
| 4. | .82 | 560 | 1.61 | .938 |
| 5. | | | | |

Gas Liquid Hydrocarbon Ratio: N/A Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: N/A Deg.
Specific Gravity Separator Gas: .586 XXXXXXXXX
Specific Gravity Flowing Fluid: N/A XXXXX
Critical Pressure: 675 P.S.I.A. P.S.I.A.
Critical Temperature: 346 R R

$P_c$ 2513.2 $P_c^2$ 6316.2

| NO. | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1. | 5490.6 | 2343.8 | 5493.3 | 822.9 |
| 2. | 4701.1 | 2170 4 | 4710.8 | 1605.4 |
| 3. | 3830.6 | 1962.7 | 3852.3 | 2463,9 |
| 4. | 2986.7 | 1739.0 | 3024.3 | 3291.9 |
| 5. | | | | |

1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.919$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.850$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 3.414$

Absolute Open Flow: 3.414 Mcfd @ 15.025 | Angle of Slope θ: 46.6 | Slope, n: .944

Remarks: *NO FLUID MADE DURING TEST

| Approved By Division | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | PRO WELL TESTER RA | MB | BM |