OIL CONSERVATION DIVISI

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122[illegible]
Revised 10-1-78

c15f File

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

| | | | | | |
|---|---|---|---|---|---|
| Type Test: [X] Initial [ ] Annual [ ] Special | | | | Test Date: 9-22-89 | O. C. D. ARTESIA, OFFICE |
| Company: BETTIS ~~BROTHERS~~ BOYLE & STOVALL | | | Connection: AIR | | |
| Pool: WILDCAT | | | Formation: MORROW | | Unit |
| Completion Date: 9-15-89 | Total Depth: 11850. | | Plug Back TD: 11760. | Elevation: 3375. | Farm or Lease Name: EXX[illegible] FED. 17 CO |
| Csg. Size: 4.500 / Wt.: 11.6 / d: 4.000 / Set At: 11848. | | | Perforations: From 11478. To 11490. | | Well No.: 1 |
| Tbg. Size: 2.375 / Wt.: 4.7 / d: 1.995 / Set At: 11491. | | | Perforations: From 0. To 0. | | Unit: J / Sec.: 17 / Twp.: [illegible] / Rge.: 26 |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: SINGLE-GAS | | | Packer Set At: 11377. | | County: EDDY |
| Producing Thru: TUBING | Reservoir Temp. °F: 187. @ 11484. | Mean Annual Temp. °F: 60.0 | Baro. Press. – $P_a$: 13.2 | | State: NM |

| L | H | Gg | % $CO_2$ | % $N_2$ | % $H_2S$ | Prover | Meter Run | Taps |
|---|---|---|---|---|---|---|---|---|
| 11484. | 11484. | .585 | 1.16 | .25 | .00 | .0 | 4.0 | FLANGE |

| NO. | FLOW DATA: Prover Line Size X Orifice Size | Press. p.s.i.g. | Diff. $h_w$ | Temp. °F | TUBING DATA: Press. p.s.i.g. | Temp. °F | CASING DATA: Press. p.s.i.g. | Temp. °F | Duration of Flow |
|---|---|---|---|---|---|---|---|---|---|
| SI | | | | | 4000. | 72. | | | 72.0 |
| 1. | 4.03 X 2.500 | 550. | 10.5 | 98. | 3920. | 60. | PKR | 0. | 1.0 |
| 2. | 4.03 X 2.500 | 560. | 24.0 | 84. | 3815. | 60. | PKR | 0. | 1.0 |
| 3. | 4.03 X 2.500 | 560. | 44.0 | 67. | 3660. | 60. | PKR | 0. | 1.0 |
| 4. | 4.03 X 2.500 | 560. | 91.0 | 46. | 3430 | 60. | PKR | 0. | 1.0 |
| 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 | 32.64 | 76.90 | 563.2 | .9653 | 1.3074 | 1.0350 | 3279. |
| 2 | 32.64 | 117.29 | 573.2 | .9777 | 1.3074 | 1.0394 | 5086. |
| 3 | 32.64 | 158.81 | 573.2 | .9933 | 1.3074 | 1.0446 | 7032. |
| 4 | 32.64 | 228.39 | 573.2 | 1.0137 | 1.3074 | 1.0523 | 10397. |
| 5 | | | | | | | |

| NO. | $P_t$ | Temp. °R | $T_r$ | Z |
|---|---|---|---|---|
| 1 | .83 | 558. | 1.59 | .933 |
| 2 | .85 | 544. | 1.55 | .926 |
| 3 | .85 | 527. | 1.50 | .916 |
| 4 | .85 | 506. | 1.44 | .903 |
| 5 | | | | |

Gas Liquid Hydrocarbon Ratio .0 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons .0 Deg.
Specific Gravity Separator Gas .585 XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX .585
Critical Pressure 678. P.S.I.A. 678. P.S.I.A.
Critical Temperature 351. R 351. R

$P_c$ 4000.0 $P_c^2$ 16000.

| NO | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | 15470. | 3984. | 15872. | 128. |
| 2 | 14655. | 3948. | 15588. | 413. |
| 3 | 13492. | 3903. | 15231. | 770. |
| 4 | 11856. | 3949. | 15593. | 407. |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 20.7792$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 5.1936$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 36521.$

Absolute Open Flow 36521 Mcfd @ 15.025 Angle of Slope θ 61.5 Slope, n .543

Remarks: CHOKE SIZE: 1ST RATE 9/64 2ND RATE 13/64 3RD RATE 18/64 4TH RATE 23/64

| Approved By Division | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | C & W WIRELINE, INC. | MATT LEE | |