NEW MEXICO OIL CONSERVATION COMMSSION

# MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

OLD WELL WORKOVER from Penn. to Organ Rock

| | | | | |
|---|---|---|---|---|
| Type Test: [X] Initial [ ] Annual [ ] Special | | | Test Date: Nov. 30, 1987 | |
| Company: S. E. R. H., Inc. | Connection: To be connected to Navajo Ref. Helium Line | | | |
| Pool: Big Gap Organ Rock | Formation: Organ Rock | | Unit | |
| Completion Date: 11/30/87 | Total Depth: 5675 | Plug Back TD: 3682 on WO | Elevation: 5799 Gr. | Farm or Lease Name: Navajo Nation |
| Csg. Size: 4½" / Wt.: 10.5 / d: / Set At: 5670 | | Perforations: From 3682 To 3721 | | Well No.: 29 #3 |
| Tbg. Size: 2-3/8 / Wt.: 4.7 / d: / Set At: 3710 | | Perforations: From Open end w/cross pin To | | Unit: J / Sec.: 29 / Twp.: 27N / Rge.: 19W |
| Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single | | Packer Set At: None | | County: San Juan |
| Producing Thru: Tbg. | Reservoir Temp. °F: @ ? | Mean Annual Temp. °F: ? | Baro. Press. – $P_a$: 12 | State: New Mexico |
| L: | H: | Gg: 1.04 | % $CO_2$: | % $N_2$: |
| % $H_2S$: | Prover: 2" | Meter Run: | Taps: | |

## 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 | 122 hrs & stable | | | | 1360 | | 1360 | | SI |
| 1. | 2" X 7/32" | 562 | | | 562 | | 606 | | ½ hr. |
| 2. | " | 252 | | | 252 | | 360 | | 1 hr. |
| 3. | " | 126 | | 56 | 126 | | 235 | | 2 hr. |
| 4. | " | 116 | | 56 | 116 | | 200 | | 3 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 | 0.8393 | | 574 | 1.004 | 1. | Nil | 483 |
| 2 | " | | 264 | " | " | " | 224 |
| 3 | " | | 138 | " | " | " | 116 |
| 4 | " | | 128 | " | " | " | 108 |
| 5 | | | | | | | |

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

RECEIVED
DEC 04 1987
OIL CON. DIV.
DIST. 3

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

$P_c$ 1372 $P_c^2$ 1882384

| NO | $P_t^2$ | $P_w$ | $P_w^2$ | $P_c^2 - P_w^2$ |
|---|---|---|---|---|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{1882384}{1837440}$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n$ n=1 = 1.02

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 1.02 \times 108 = 110$

Absolute Open Flow 110 Mcfd @ 15.025 | Angle of Slope θ Est. 45° | Slope, n 1

Remarks: Well showed some water vapor after 1½ hours of flow. Gas is mostly inert and expected to contain approx. 5% He.

| Approved By Commission: | Conducted By: | Calculated By: | Checked By: |
|---|---|---|---|
| | J. Heller | J. Heller | |

John M Heller, Agent