

ONE POINT STABILIZED OPEN FLOW OR DELIVERABILITY TEST

TYPE TEST:  Deliverability  Open Flow TEST DATE: 2-5-83

COMPANY: Centennial LEASE: Armstrong WELL NO.: 1-12

COUNTY: Sherman LOCATION: NW 12 SECTION: 12 TWP: 8 RNG: 39 ACRES:

FIELD: Reservoir: Hydrocar PIPELINE CONNECTION: Half Cased

COMPLETION DATE: PLUG BACK TOTAL DEPTH: PACKER SET AT:

CASING SIZE: WT. I.D. SET AT PERF. TO

TUBING SIZE: WT. I.D. SET AT PERF. TO

TYPE COMPLETION (Describe): Single gas TYPE FLUID PRODUCTION:

PRODUCING THRU: Casing RESERVOIR TEMPERATURE F BAR. PRESS - P<sub>a</sub>: 14.4 Psia

GAS GRAVITY - G<sub>g</sub>: 595 % CARBON DIOXIDE % NITROGEN API GRAVITY OF LIQUID:

VERTICAL DEPTH (H): TYPE METER CONN.: Plug (METER RUN) (PROVER) SIZE: 2

SHUT-IN PRESSURE: SHUT IN 2-5-83 AT 19:03 (AM)(PM) TAKEN 2-8-83 AT 19:03 (AM)(PM)

FLOW TEST: STARTED 2-8-83 AT 19:03 (AM)(PM) TAKEN 2-9-83 AT 19:03 (AM)(PM)

OBSERVED DATA

DURATION OF SHUT-IN: HR.

| SHUT-IN OR FLOW | ORIFICE SIZE in. | (METER) (PROVER) PRESSURE psig | DIFF. in. (h <sub>w</sub> )(h <sub>d</sub> ) | FLOWING TEMP. t | WELL-HEAD TEMP. t | CASED WELLHEAD PRESS. |  | TUBING WELLHEAD PRESS. |  | DURATION HOURS | LIQUID PROD. Bbls. |
|-----------------|------------------|--------------------------------|--|-----------------|-------------------|-----------------------|--|------------------------|--|----------------|--------------------|
|                 |                  |                                |  |                 |                   | psig                  | (P <sub>w</sub> )(P <sub>i</sub> )(P <sub>c</sub> ) psia | psig                   | (P <sub>w</sub> )(P <sub>i</sub> )(P <sub>c</sub> ) psia |                |                    |
| SHUT-IN         |                  |                                |  |                 |                   | 21.3                  | 35.7   |                        |  |                |                    |
| FLOW            | 1                | 12.8                           | 2.0  |                 |                   | 13.1                  | 27.5   |                        |  |                |                    |

RATE OF FLOW CALCULATIONS

| COEFFICIENT (F <sub>c</sub> )(F <sub>d</sub> ) Mcfd | (METER) (PROVER) PRESSURE psia | EXTENSION $\sqrt{P_m \times h_w}$ | GRAVITY FACTOR F <sub>g</sub> | FLOWING TEMP. FACTOR F <sub>t</sub> | DEVIATION FACTOR F <sub>pv</sub> | RATE OF FLOW R Mcfd | GOR | G <sub>m</sub> |
|---|--------------------------------|-----------------------------------|-------------------------------|-------------------------------------|----------------------------------|---------------------|-----|----------------|
| 5.073   | 27.2                           | 7.376                             | 1.307                         | 1.000                               | 1.000                            | 49.0                |     |                |

(OPEN FLOW) (DELIVERABILITY) CALCULATIONS

(P<sub>c</sub>)<sup>2</sup> = 1.27 ; (P<sub>w</sub>)<sup>2</sup> = 756 ; P<sub>d</sub><sup>2</sup> = \_\_\_\_\_ % (P<sub>c</sub> - 14.4) + 14.4 = \_\_\_\_\_ (P<sub>w</sub>)<sup>2</sup> = 0.207 (P<sub>d</sub>)<sup>2</sup> = \_\_\_\_\_

| $\frac{(P_c)^2 - (P_w)^2}{(P_c)^2 - (P_d)^2}$ | (P <sub>c</sub> ) <sup>2</sup> - (P <sub>w</sub> ) <sup>2</sup> | $\frac{P_c^2 - P_w^2}{P_c^2 - P_d^2}$ | LOG [ ] | "n"   | "n" x LOG [ ] | ANTILOG | OPEN FLOW DELIVERABILITY EQUALS R x ANTILOG Mcfd |
|---|---|---------------------------------------|---------|-------|---------------|---------|--|
| 1.07  | .514  | 2.0817                                | .3184   | .718* | .2286         | 1.6929  | 83   |

OPEN FLOW 83 Mcfd @ 14.65 psia DELIVERABILITY

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct.

Executed this the \_\_\_\_\_ day of \_\_\_\_\_, 1983.

\* ASSUMED 'n'

Witness (if any)  
Glynn W. Loring  
For Commission

STATE CORPORATION COMMISSION  
FEB 29 1983  
CONSERVATION DIVISION  
Wichita, Kansas  
For Company

Checked by