



ONE-POINT BACK-PRESSURE TEST REPORT - FORM 21

INDUSTRIAL COMMISSION OF NORTH DAKOTA
 OIL AND GAS DIVISION
 600 EAST BOULEVARD DEPT 405
 BISMARCK, ND 58505-0840
 SFN 18713 (02-2008)

Well File No.

PLEASE READ INSTRUCTIONS BEFORE FILLING OUT FORM.
 PLEASE SUBMIT THE ORIGINAL.

| | | | | | | | | | |
|--|----------|---|------------------|-----------------|------------------------------|----------------------|--|--------------------|----------|
| Type of Test Initial Annual Special | | | Date of Test | | | | | | |
| Operator | | | | | | | | Telephone Number | |
| Address | | | | | | City | | State | Zip Code |
| Well Name and Number | | | | Qtr-Qtr | Section | Township N | Range W | County | |
| Field | | | | Pool | | | | Total Depth (Feet) | |
| Perforations (Feet) From To | | Type Completion (Describe) | | | | | Packer Depth (Feet) | | |
| Producing Through | | Reservoir Temperature (°F) @ Feet | | | Mean Annual Temperature (°F) | | Barometric Pressure, P _a (PSIA) 14.73 | | |
| L (Feet) | H (Feet) | G _g | %CO ₂ | %N ₂ | %H ₂ S | Prover ID | Meter Run ID In | Taps Type In | |

| TUBING DATA | | CASING DATA | | FLOW DATA | | | | | | |
|-------------|-----------------|------------------|-----------------|------------------|-----------------------|-------------------------|-----------------|---|------------------|-------------------------|
| No. | Pressure (PSIG) | Temperature (°F) | Pressure (PSIG) | Temperature (°F) | Prover Line Size (In) | Choke Orifice Size (In) | Pressure (PSIG) | Meter Differential Pressure h _w (In) | Temperature (°F) | Duration of Flow (Hour) |
| 1. | | | | | | | | | | |

| No. | Coefficient, F _b (24-Hour) | Square Root of h _w P _m | Pressure, P _m (PSIA) | Flow Temperature Factor, F _t | Gravity Factor, F _g | Super Compressibility Factor, F _{p_v} | Rate of Flow, Q (MCFD) |
|-----|---------------------------------------|--|---------------------------------|---|--------------------------------|--|------------------------|
| 1. | | | | | | | |

| No. | P _r | Abs. Temperature, T (°R) | T _r | z |
|-----|----------------|--------------------------|----------------|---|
| 1. | | | | |

| | | |
|------------------------------------|------------------|------------------------|
| Gas Liquid Hydrocarbon Ratio | | MCF/Bbl |
| API Gravity of Liquid Hydrocarbons | | deg. |
| Separator Gas | Flowing Fluid | |
| Specific Gravity | Specific Gravity | |
| Critical Pressure | PSIA | Critical Pressure PSIA |
| Critical Temp. | °R | Critical Temp. °R |

| | |
|-----------------------|-----------------------------------|
| P _c (PSIA) | P _c ² /1000 |
|-----------------------|-----------------------------------|

| | |
|-----------------------|-----------------------------------|
| P _f (PSIA) | P _f ² /1000 |
|-----------------------|-----------------------------------|

| No. | P _t (PSIA) | P _t ² /1000 | $\frac{P_c^2 - P_t^2}{1000}$ | P _w (PSIA) | P _w ² /1000 | $\frac{P_c^2 - P_w^2}{1000}$ | P _s (PSIA) | P _s ² /1000 | $\frac{P_f^2 - P_s^2}{1000}$ |
|-----|-----------------------|-----------------------------------|------------------------------|-----------------------|-----------------------------------|------------------------------|-----------------------|-----------------------------------|------------------------------|
| 1. | | | | | | | | | |

$$\frac{P_c^2}{P_c^2 - P_w^2} = \frac{\quad}{\quad} = \quad$$

$$\log \frac{P_c^2}{P_c^2 - P_w^2} = \quad$$

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

$$n \log \frac{P_c^2}{P_c^2 - P_w^2} = \quad$$

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

| | | | |
|-----|------|----------|---|
| AOF | n | n Source | c |
| | MCFD | | |

| | | | |
|-----------|--------------|-------|------|
| Signature | Printed Name | Title | Date |
|-----------|--------------|-------|------|