Initial Deliverability Test

NEW MEXICO OIL CONSERVATION COMMISSION
GAS WELL TEST DATA SHEET - - SAN JUAN BASIN

(TO BE USED FOR FRUITLAND, PICTURED CLIFFS, MESAVERDE, & ALL DAKOTA EXCEPT BARKER DOME STORAGE AREA)

Pool **Basin Dakota** _____ Formation **Dakota** _____ County **San Juan**

Purchasing Pipeline **El Paso Natural Gas Company** _____ Date Test Filed **1-7-65**

Operator **PAN AMERICAN PETROLEUM CORP.** Lease **C. E. Daniel** Well No. **1**

Unit **E** Sec. **10** Twp. **26** Rge. **11** Pay Zone: From **6200** To **6440**

Casing: OD **7"** WT. **20 & 23** Set At **6447** Tubing: OD **2-3/8** WT. **4.7** T. Perf. **6200**

Produced Through: Casing _____ Tubing _____ Gas Gravity: Measured **0.660** Estimated _____

Date of Flow Test: From **12-9-64** To **12-16-64** *Date S.I.P. Measured **0-25-64**

Meter Run Size **4"** Orifice Size **.625** Type Chart **Sq. Rt.** Type Taps **Flange**

OBSERVED DATA

Flowing casing pressure (Dwt) _____ psig + 12 = _____ psia		(a)
Flowing tubing pressure (Dwt) _____ psig + 12 = _____ psia		(b)
Flowing meter pressure (Dwt) _____ psig + 12 = _____ psia		(c)

Flowing meter pressure (meter reading when Dwt. measurement taken:

Normal chart reading _____ psig + 12 = _____ psia (d)

Square root chart reading (_____) ^{2} x spring constant _____ = _____ psia (d)

Meter error (c) - (d) or (d) - (c) ± = _____ psi (e)

Friction loss, Flowing column to meter:

(b) - (c) Flow through tubing: (a) - (c) Flow through casing = _____ psi (f)

Seven day average static meter pressure (from meter chart):

Normal chart average reading _____ psig + 12 = _____ psia (g)

Square root chart average reading (**7.08**) ^{2} x sp. const. **10** = **497** psia (g)

Corrected seven day avge. meter press. (p_f) (g) + (e) = **497** psia (h)

P_t = (h) + (f) = **497** psia (i)

Wellhead casing shut-in pressure (Dwt) _____ psig + 12 = _____ psia (j)

Wellhead tubing shut-in pressure (Dwt) **1165** psig + 12 = **1177** psia (k)

P_c = (j) or (k) whichever well flowed through = **1177** psia (l)

Flowing Temp. (Meter Run) _____ °F + 460 = _____ °Abs (m)

$P_d = \frac{1}{2} P_c = \frac{1}{2}$ (l) = **588** psia (n)

FLOW RATE CALCULATION

$$Q = \underline{\hspace{2cm}} \times \left(\frac{\sqrt{(c)}}{\sqrt{(d)}} = \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \right) \cdot = \underline{\hspace{2cm}} \text{MCF/da}$$

(integrated)

DELIVERABILITY CALCULATION

$$D = Q\,\underline{\textbf{179}}\, \left[\frac{\left(P_c^2 - P_d^2\right) = \textbf{1,033,432}}{\left(P_c^2 - P_w^2\right) = \textbf{1,117,344}} \right]^n \, \underline{\textbf{.9330}} = \underline{\textbf{167}} \text{ MCF/da.}$$

SUMMARY

P_c = **1177** psia
Q = **179** Mcf/day
P_w = **488** psia
P_d = **588** psia
D = **167** Mcf/day

Company **PAN AMERICAN PETROLEUM CORPORATION**
By **F. L. Osborn**
Title **District Engineer**
Witnessed by **Byrd**
Company _____

ORIGINAL SIGNED BY
F. W. Fox

* This is date of completion test.
* Meter error correction factor

REMARKS OR FRICTION CALCULATIONS

GL	(1-e^{-S})	(F_cQ)2	$\frac{(F_cQ)^2 \quad (1-e^{-S})}{R^2}$	P_t^2 (Column i)	$P_t^2 + R^2$	P_w
6200	**.257**	**2.532**	**.756**	**247,000**	**247,765**	**488**

Well disconnected from Sunray DX Oil Company's Central Dist. Unit on December 17, 1963, and shut in until connected on December 7, 1964, to El Paso Natural Gas Company's system. First delivery made November 14, 1964.