

Operator El Paso Natural Gas		Lease Hardie No. 2 (OWWO)	
Location 990'S, 990'W Sec. 25, T-29N, R-8W		County San Juan	State New Mexico
Formation Mesa Verde		Pool Blanco	
Casing: Diameter 4.500	Set At: Feet 5423	Tubing: Diameter 1.660	Set At: Feet 5254
Pay Zone: From 4588	To 5290	Total Depth: 5423	Shut In 12-31-68
Stimulation Method Sand water frac		Flow Through Casing X	Flow Through Tubing

Choke Size, Inches 2.750 plate; 4" M. R.		Choke Constant: C 41.9208		Tested through a 3/4" variable choke	
Shut-In Pressure, Casing, PSIG 774	+ 12 = PSIA 786	Days Shut-In 7	Shut-In Pressure, Tubing PSIG 135	+ 12 = PSIA 147	
Flowing Pressure: P PSIG 118 M.R.; 360 W. H.	+ 12 = PSIA 130 M.R.; 372 W.H.		Working Pressure: Pw Calc. Calc.	+ 12 = PSIA 573	
Temperature: T = 53 °F	n = Ft = 1.0068		Fpv (From Tables) 1.015	Gravity .706	Fg = 1.1901

$$\text{CHOKE VOLUME} = Q = C \times P_1 \times F_1 \times F_g \times F_{pv}$$

$$Q = \text{Calculated from orifice meter readings} = \underline{\quad 3671 \quad} \text{ MCF/D}$$

$$\text{OPEN FLOW} = Aof = Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$$

$$Aof = \left(\frac{617796}{289467} \right)^n$$

$$= (11,744)(2.1342)^{.75} = (11,744)(1.7657)$$

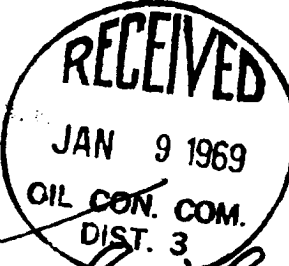
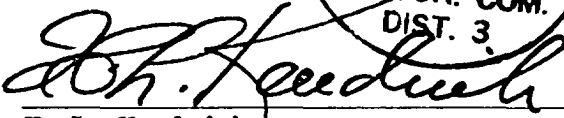
Note: This well produced 31.33 bbls. of 45.0 API gravity oil during the three hour test.

$$Aof = \underline{\quad 6482 \quad} \text{ MCF/D}$$

TESTED BY Don Norton and Jesse Goodwin

Calculated

WITNESSED BY G. A. Lippman



H. L. Kendrick