

OPEN FLOW TEST DATA

DATE November 7, 1978

Operator El Paso Natural Gas Company		Lease San Juan 32-9 Unit #21-A	
Location NW 11-31-10		County San Juan	State New Mexico
Formation Mesa Verde		Pool Blanco	
Casing: Diameter 4.500	Set At: Feet 5678'	Tubing: Diameter 2 3/8	Set At: Feet 5471'
Pay Zone: From 4510'	To 5389'	Total Depth: 5678'	Shut In 10-19-78
Stimulation Method U.P.L. sand and slick water U.P.L. Open hole, sand/gel condensate CH-Men /sand slick water		Flow Through Casing	Flow Through Tubing

Meter Run			
Choke Size, Inches 4"	Orifice 2.500	Choke Constant: C 32.64	Well tested thru 3/4" variable choke
Shut-In Pressure, Casing, PSIG 570	+ 12 = PSIA 582	Days Shut-In 19	Shut-In Pressure, Tubing PSIG 570
Flowing Pressure: P MR 71 W.H. 274	+ 12 = PSIA M.R. 83 W.H. 286	Working Pressure: P _w Measured	+ 12 = PSIA 544
Temperature: T = 53 °F	n = .75	F _p (From Tables) 1.009	Gravity .650 F _g = 1.240

$$\text{CHOKE VOLUME} = Q = C \times P_t \times F_t \times F_g \times F_{pv}$$

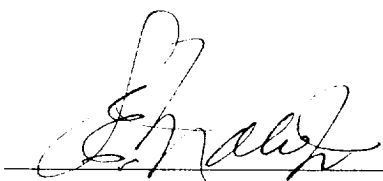
$$Q = \text{Calculated from meter readings} = \underline{\quad 2729 \quad} \text{ MCF/D}$$

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

$$Aof = Q \left(\frac{338724}{42788} \right)^n = (7.9163)^{.75} = (2729) = (4.7195) (2729)$$

$$Aof = \underline{\quad 12,880 \quad} \text{ MCF/D}$$

Note: Well made no liquids during test and vented 336 MCF to the atmosphere.

TESTED BY J. ThurstonsonWITNESSED BY C. R. Wagner

Well Test Engineer