

EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATADATE Oct. 11, 1979

Operator <u>El Paso Natural Gas Company</u>		Lease <u>Mudge 1A (PM)</u>	
Location <u>SE 21-31-11</u>		County <u>San Juan</u>	State <u>New Mexico</u>
Formation <u>Mesa Verde</u>		Pool <u>Blanco</u>	
Casing: Diameter <u>4.500</u>	Set At: Feet <u>5153</u>	Tubing: Diameter <u>2 3/8</u>	Set At: Feet <u>5081</u>
Pay Zone: From <u>4692</u>	To <u>5102</u>	Total Depth: <u>5153</u>	Shut In <u>10-3-79</u>
Stimulation Method <u>Sand Water Frac</u>		Flow Through Casing	Flow Through Tubing <u>XXX</u>

Choke Size, Inches <u>.750</u>	Choke Constant: C <u>12.365</u>			
Shut-In Pressure, Casing, <u>PSIG</u>	+ 12 = PSIA <u>-----</u>	Days Shut-In <u>8</u>	Shut-In Pressure, Tubing <u>643 PSIG</u>	+ 12 = PSIA <u>655</u>
Flowing Pressure: P <u>278 PSIG</u>	+ 12 = PSIA <u>290</u>		Working Pressure: P _w <u>Calc. PSIG</u>	+ 12 = PSIA <u>569</u>
Temperature: <u>54 °F</u>	F _t <u>1.006</u>	n = <u>.75</u>	F _{pv} (From Tables) <u>1.030</u>	Gravity <u>.650</u> F _g = <u>.9608</u>

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

$$Q = (12.365)(290)(1.006)(.9608)(1.030) = \underline{3570} \text{ MCF/D}$$

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

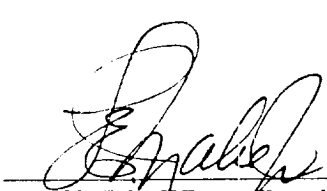
$$Aof = \left(\frac{429025}{105264} \right)^n = (4.0757)^{.75} (3570) = (2.8685)(3570)$$

NOTE: Well Unloaded Slug of Water and Then Blew A Light Fog of Water Throughout the Test and Vented 346 MCF/D to The Atmosphere.

$$Aof = \underline{10,241} \text{ MCF/D}$$

TESTED BY L. Fothergill

WITNESSED BY _____


Well Test Engineer