

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 1-28-93	
Company LLANO LAND & EXPLORATION		Connection FLAPE	
Pool		Formation MORROW	
Completion Date 12-21-92		Total Length 11876	
Csg. Size 5 5		Set At 11874	
Wt. 20.0		Perforations From 11342 To 11598	
Thg. Size 2 3/5		Set At 11340	
Wt. 4.7		Perforations From To	
Type Well - Single - Drillinghead - G.G. or G.O. Multiple		Packer Set At 11007	
Producing Thru TUBING (GAS)		Mean Annual Temp. °F 60	
Reservoir Temp. °F 176 @ 11470		Base Press. - P ₀ 13.2	
L 11470		H 11470	
Gg 0.578		% CO ₂ 1.28	
		% N ₂ 0.91	
		% H ₂ S 0	
Prover 0		Meter Run 3.0	
Taps f1g		Unit G 35 25s 25E	
County EDDY		State NEW MEXICO	

FLOW DATA											
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI	3 0										
1.	3 0 X	0.75		410	20	40	2910	60	3732	176	72.0
2.	3 0 X	0.75		410	84	40	2617	60	3370	176	1
3.	3 0 X	1.25		410	13.5	50	1970	60	2550	176	1
4.	3 0 X	1.25		410	12	50	1446	60	1869	176	1
5.							1081	60	1392	176	1

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.672	92.00	423.2	1.020	1.315	1.038	342
2	2.672	188.54	423.2	1.020	1.315	1.038	701
3	7.577	75.59	423.2	1.010	1.315	1.036	788
4	5.77	71.26	423.2	1.010	1.315	1.036	743

NO.	P ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio	Grav. Factor	Super Compress. Factor	Rate of Flow
1	0.627	500	1.45	0.928	DRY GAS			
2	0.627	500	1.45	0.928	DRY GAS			
3	0.627	510	1.47	0.932				
4	0.627	510	1.47	0.932				

NO.	P ₁	P _w	P ₁ ²	P _w ²	P ₁ ² - P _w ²
1		3383.2	11446	2580	
2		2563.2	6570	7456	
3		1882.2	3543	10484	
4		1405.2	1975	12052	

(1) $\frac{P_1^2}{P_1^2 - P_w^2} = 5.436$		(2) $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 2.526$	
AOF = Q $\left[\frac{P_1^2}{P_1^2 - P_w^2} \right]^n = 892$			

Absolute Open Flow 892		Mcf @ 15.025		Angle of Slope 0		Slope, n 0.547	
Remarks: choke sizes: 1st rate 8/64, 2nd 9/64, 3rd 10/64 4th 11/64							

Approved By Division	Conducted By KELTIC SERVICES	Calculated by JIM SMITH	Checked By
----------------------	---------------------------------	----------------------------	------------