

clsr
File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 5-31-93	
Company SNOW OIL & GAS		Connection ATR NEW WELL	
Pool Duffield Penn		Formation MORROW	
Completion Date 5-28-93		Total Depth 8792	
Plug Back TD 8792		Elevation 5100	
Casing Size 7.0		Well ID 6.276	
Casing Weight 26.0		Set At 8799	
Tubing Size 2.375		Tubing Weight 4.7	
Tubing ID 1.995		Set At 8492	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple SINGLE (GAS)		Packer Set At 8492	
Producing thru TUBING		Reservoir Temp. °F 146 @ 8638	
Mean Annual Temp. °F 60		Baro. Press. - P _b 13.2	
L 8638		H 8638	
G _g 0.645		% CO ₂ 0.268	
% N ₂ 0.424		% H ₂ S 0.00	
Prover 3.0		Meter Run flg	
Unit #1		Sec. 21	
Twp. 16S		Rge. 27E	
County EDDY		State NEW MEXICO	

FLOW DATA						TUBING DATA		BHP DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h _w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI	3.0 x 1.0			350			1270		1585		72.0
1.	3.0 x 1.0			350	13	68	1125	60	1412	146	1.0
2.	3.0 x 1.0			350	24	72	1040	60	1301	146	1.0
3.	3.0 x 1.0			350	43	63	925	60	1167	146	1.0
4.	3.0 x 1.0			350	52.5	60	815	60	1023	146	1.0
5.											

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 _{sp}	Rate of Flow Q, Mscf/d
1	4.780	68.71	363.2	0.9924	1.245	1.035	421
2	4.789	93.36	363.2	0.9887	1.245	1.034	569
3	4.789	124.97	363.2	0.9971	1.245	1.036	770
4	4.789	138.09	363.2	1.000	1.245	1.037	854
5							

NO.	R _g	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio	Mcf/lbl.
1	0.542	528	1.416	0.933	A.P.I. Gravity of Liquid Hydrocarbons	Deq.
2	0.542	532	1.426	0.935	Specific Gravity Separator Gas	0.645
3	0.542	523	1.402	0.931	Specific Gravity Flowing Fluid	XXXXXX
4	0.542	520	1.394	0.930	Critical Pressure	670 P.S.I.A.
5					Critical Temperature	373 °R

P _c 1598.2 P _c ² 2554		(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.883$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.059$	
NO.	P _w	P _w ²	P _c ² - P _w ²		
1	1425.2	2031	523		
2	1314.2	1727	827		
3	1180.2	1393	1161		
4	1036.2	1074	1481		
5					

Absolute Open Flow 1285 Mscf @ 15.025		Angle of Slope 4		Step 0.705	
Remarks: choke sizes: 1st rate 8/64 2nd 10/64 3rd 12/64 4th 14/64					
Approved by Division		Conducted By:		Checked By:	
		KELTIC SERVICES		JIM SMITH	