

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 2-4-94	
Company SNOW OIL & GAS				Connection FLARE	
Pool DUFFIELD PENN				Formation STRAWN	
Completion Date 2-1-94		Total Depth 8940		Plug Back TD 8720	
				Elevation N/A	
Csg. Size 5.5		Wt. 17.0		Set At 4.892	
TKG. Size 2.375		Wt. 4.7		Set At 1.995	
				Perforations: From 8134 To 8143	
				Perforations: From - To -	
Type Well - Single - Drillinghead - G.C. or G.O. Multiple SINGLE (GAS)				Packer Set At 8050	
Producing Thru TBG. (GAS)				Baro. Press. -- P _a 13.2	
Reservoir Temp. °F 141				Mean Annual Temp. °F 60	
County EDDY				State NEW MEXICO	
L 8139		H 8139		G _g 0.664	
				% CO ₂ 4.192	
				% N ₂ 0.500	
				% H ₂ S 0.00	
				Prover 0.00	
				Meter Run 3.0	
				Taps FLG.	

FLOW DATA						TUBING DATA		BHP DATA		Duration of Flow	
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											
1.	3.0 x 1.25			400	19	0	1920	60	2515	141	72.0
2.	3.0 x 1.25			400	34	10	1770	60	2328	141	2.0
3.	3.0 x 1.25			400	53	20	1565	60	2068	141	2.0
4.	3.0 x 1.25			400	81	30	1260	60	1637	141	1.5
5.											1.25

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super. Compress. Factor F _{sp}	Rate of Flow Q, Mcf/d
1	7.577	88.60	413.2	1.063	1.176	1.066	895
2	7.577	118.53	413.2	1.052	1.176	1.062	1180
3	7.577	147.99	413.2	1.041	1.176	1.056	1450
4	7.577	182.95	413.2	1.030	1.232	1.051	1849
5							

NO.	P _h	Temp. °R	T _g	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.580	460	1.207	0.880	36.78	
2	0.580	470	1.234	0.887		
3	0.580	480	1.260	0.896		
4	0.601	490	1.321	0.905		
5						

NO.	P _i	P _w	P _i ²	P _w ²	P _i ² - P _w ²
1	2871	8243			
1		2528	6391	1852	
2		2341	5480	2762	
3		2081	4331	3912	
4		1640	2690	5553	
5					

(1) $\frac{P_i^2}{P_i^2 - P_w^2} = 1.484$

AOR = Q $\left[\frac{P_i^2}{P_i^2 - P_w^2} \right]^n = 2387$

(2) $\left[\frac{P_i^2}{P_i^2 - P_w^2} \right]^n = 1.295$

Part ID-2
4-8-94
comp BK

Absolute Open Flow 2387		Mcf @ 15.025	Angle of Slope α	Slope, n 0.654
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Remarks: Choke Sizes: First Rate=12/64, Second=13.5/64, Third=17/64, Forth=18.5/64
Fluid Prod. during test = 9.26 bbl. oil - 0 bbl. water Note: Gas gravity = 0.723 first three rates, = 0.659 forth rate

Approved By Division	Conducted By KELTIC SERVICES	Calculated By JIM SMITH	Checked By:
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