

MULTIPOINT WELL POINT 1 - R. F. FERGUSON TEST FOR GAS FLOW

Type Test ☐ Initial ☐ Annual ☐ Interval 12-23-85											
Company EARLE M. CRAIG, JR. CORP.						Section					
Pool PHANTOM DRAIN <i>Wolfcamp</i>						Location WOLF CAMP					
Completion Date 8-15-85						Total Depth 12,995'		Plug Valve Top 12324'		Casing Head 3200.0 RS	
Casing Size 4 1/2		Wt. c		Casing 100'		Perforations From 12445' To 12460'		Perforations From To		Plate or Lease Name SPITFIRE "16"	
Tubing Size 2 7/8		Wt. c		Tubing 100'		Perforations From To		Perforations From To		Unit H 19-26-31	
Type Well - Single - Broadhead - C.G. or R.C. or P.C.											
Single											
Producing thru TUBING				Reservoir Temp. °F p 210				Tubing Head Temp. °F 70			
L 12405				H 12405				13.2			
W 0.650				C 0.32				S 0.10			
H 0				S 0				C 0			
4.026				FLANGE				NEW MEXICO			
FLOW DATA											
NO.	Prover Line Size	X	Orifice Size	Press. psid.	Flow, gal.	Temp. °F	Tubing Data Press. psid.	Temp. °F	Casing Data Press. psid.	Temp. °F	Duration of Flow
1	180 HOURS										
1.	4.026" x 2.000"			390	4	100	5145	30	114		30 min.
2.	4.026" x 2.000"			390	16	96	7527	30			30 min.
3.	4.026" x 2.000"			390	16	85	5755	30			30 min.
4.	4.026" x 2.000"			400	18	70	3521	30			30 min.
5.											
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P_m	Flow Temp. Factor F_L	Gravity Factor F_g	Super Compress. Factor, F_{sc}	Date of Flow				
1	19.81	40.160	403.2	0.9636	1.2328	1.031	974.375				
2	19.81	63.493	403.2	0.9671	1.2328	1.033	1542.205				
3	19.81	80.319	403.2	0.9769	1.2328	1.035	1933.085				
4	19.81	86.242	413.2	0.9905	1.2328	1.039	2109.620				
5											
NO.	P ₁	Temp. °F	T ₁	Z	Gas Liquid Displacement Ratio $\frac{P_1}{P_2} \frac{T_2}{T_1} \frac{Z_1}{Z_2}$						
1					A.P.L. Gravity of Liquid Hydrocarbon $\frac{P_1}{P_2} \frac{T_2}{T_1} \frac{Z_1}{Z_2}$						
2					Specific Gravity Separation $\frac{P_1}{P_2} \frac{T_2}{T_1} \frac{Z_1}{Z_2}$						
3					Specific Gravity Flow $\frac{P_1}{P_2} \frac{T_2}{T_1} \frac{Z_1}{Z_2}$						
4					Critical Pressure $\frac{P_1}{P_2} \frac{T_2}{T_1} \frac{Z_1}{Z_2}$						
5					Critical Temperature $\frac{P_1}{P_2} \frac{T_2}{T_1} \frac{Z_1}{Z_2}$						
P ₁ 10125.2 P ₂ 102320											
NO.	P ₁	P ₂	P ₃	P ₄	(1) $\frac{P_1^2}{P_2^2} - \frac{P_1^2}{P_3^2} = \frac{P_1^2}{P_4^2} - \frac{P_1^2}{P_5^2}$						
1	9502	90238	12232	12232	6.25120						
2	8623	74356	20121	20121	2.85175						
3	7541	58867	40123	40123	3.85175						
4	6173	38106	12445	12445	3.85175						
5											
Absolute Open Flow 2855.545											
Remarks: Ratio hole pressure to surface pressure											
Approved by Division											
TEFTTICH, INC.											

Post ID-2
10-25-85
Comp & BIF