

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test <input type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Retest <input checked="" type="checkbox"/> Special		Test Date 10/21/83									
Company Phillips Petroleum Company		Connection Air									
Facility Lusk (Morrow) Gas		Formation Morrow									
Completion Date		Total Length 12,554	Plug Back TD 12,468								
		Elevation 3550' GR									
Well No. 5		Form. or Lease Name Lusk Deep Unit A									
Cas. Size 5 1/2	WI. 17 N 80 20 N 80	d 4 7/8 4.53	Set At 12554								
Perforations: From 12203' To 12412'											
Perforations: From Open To Ended											
Unit J	Sec. 19	Twp. 19s	Range 32e								
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single Gas		Packer Set At 11300'									
Producing Thru Thg L H 12300' 12300'		Reservoir Temp. °F 197	Mean Annual Temp. °F 60								
		Baro. Press. - P <sub>0</sub> 13.2									
County Lea		State New Mexico									
Prover 2.900	Meter Run 2.900	Taps F									
FLOW DATA											
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Dill. h <sub>w</sub>	Temp. °F	TUBING DATA		CASING DATA		Duration of Flow
							Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
1	3	X	2.000	50	4.5	92	2040	76	40	40	21.0 hrs
2	3	X	2.000	50	5.0	86	1565	73	40	40	1.0 hr
3	3	X	2.000	50	5.0	80	1125	70	40	40	1.0 hr
4	3	X	2.000	45	10.0	78	518	70	40	40	1.0 hr
5							300	68	40	40	1.0 hr
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor G <sub>g</sub>	Super Compress. Factor, F <sub>sp</sub>	Rate of Flow O. Mbl/d				
1	21.90	16.86	63.2	.9706	1.231	Nil	441				
2	21.90	17.78	63.2	.9759	1.231	Nil	468				
3	21.90	17.78	63.2	.9813	1.231	Nil	470				
4	21.90	24.12	58.2	.9831	1.231	Nil	639				
NO.	H <sub>g</sub>	Temp. °R	T <sub>g</sub>	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.					
1	.09	552	1.46	Nil	26.276						
2	.09	546	1.44	Nil	A.P.I. Gravity of Liquid Hydrocarbons 58.9 @ 60	Deg.					
3	.09	540	1.43	Nil	Specific Gravity Separator Gas .660	X X X X X X X X X					
4	.09	538	1.42	Nil	Specific Gravity Flowing Fluid X X X X X	.767					
5					Critical Pressure 670 P.S.I.A.	666 P.S.I.A.					
					Critical Temperature 378	415 R					
$P_0 = 2053.2 \text{ } P_0^2 = 4215.6$											
NO.	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>w</sub> <sup>2</sup> - P <sub>0</sub> <sup>2</sup>	(1) $\frac{P_c^2}{P_w^2 - P_0^2} = 2.446$	(2) $\left[ \frac{P_c^2}{P_w^2 - P_0^2} \right]^n = 1.564$						
1	1578.6	2492.1	1723.5								
2	1138.9	1297.0	2918.6								
3	533.7	284.8	3930.8								
4	322.0	103.7	4111.9								
Absolute Open Flow 690 Mcf @ 15.025		Angle of Slope $\theta = 63.5^\circ$		Slope, n .500							
Remarks: THE WELL PRODUCED 3.2 BBLs. OF CONDENSATE DURING THE TEST.											
Approved By Division	Conducted By: JARREL WELL TESTING, INC.	Calculated By: Rick Pagan	Checked By: Rick Pagan								