

c/sf File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 9-14-88		OCT 03 '88		
Company EXXON ✓				Connection AIR NEW WELL				O. C. D.	
Pool <i>Happy Valley, Shaw</i>				Formation STRAWN-MORROW				UNITED STATES OFFICE	
Completion Date 8-22-88		Total Depth 11838		Plug Back TD 11800		Elevation		Farm or Lease Name HAPPY VALLEY FED COMM	
Coq. Size 5.000	Wt. 20.3	d 4.184	Set At 11838	Perforations: From 10294 To 11666		Well No. #1			
Fig. Size 2.875	Wt. 6.4	d 2.441	Set At 10213	Perforations: From OPEN To ENDED		Unit Sec. Twp. Rge. G 21 38 12			
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE					Packer Set At 10213		County EDDY		
Producing Thru TUBING		Reservoir Temp. °F 10980 210		Mean Annual Temp. °F 60.0		Baro. Press. - P _g 13.2		State NEW MEXICO	
L 10980	H 10980	G _g .610	% CO ₂ .81	% N ₂ .29	% H ₂ S 0	Prover 0	Meter Run 3.1	Taps FLANG	

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	of Flow
SI							830	90	1242	210	312
1.	3.07 X 1.25			215	4.5	70	830	90	1240	210	1
2.	3.07 X 1.25			230	9.0	60	818	90	1228	210	1
3.	3.07 X 1.25			230	17.5	61	785	83	1219	210	1
4.	3.07 X 1.25			235	44.0	60	705	80	1185	210	1
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	7.58	32.05	228.2	0.9905	1.2804	1.0192	314.
2	11.13	46.78	243.2	1.0000	1.2804	1.0221	681.
3	11.13	65.24	243.2	0.9990	1.2804	1.0221	949.
4	11.13	104.50	248.2	1.0000	1.2804	1.0226	1523.
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	0.34	530.	1.47	0.963	0	
2	0.34	520.	1.45	0.957	A.P.I. Gravity of Liquid Hydrocarbons	0
3	0.34	521.	1.45	0.957	Specific Gravity Separator Gas	0.610
4	0.34	520.	1.45	0.956	Specific Gravity Flowing Fluid	X X X X X
5					Critical Pressure	675. P.S.I.A.
					Critical Temperature	359. R

NO.	P ₁	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 11.3898$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.5503$
1		987.	975.	4.	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 5405.$	
2		978.	957.	22.		
3		971.	944.	35.		
4		893.	893.	86.		
5						

Absolute Open Flow 5405.		Mcf @ 15.025	Angle of Slope 62.5	Slope, n 0.521
Remarks: BHP MEASURED WITH AMERADAPRESSURE ELEMENTS				
Approved By Division	Conducted By	Calculated By	Checked By	
<i>X</i>	BENNETT-CATHEY	MATT LEE	<i>9/20/88</i>	