

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test		☐ Initial		☐ Annual		☒ Special		Test Date		5-10-90	
Company				Connection							
Union Oil Company of Calif.				Flared							
Pool				Formation				Unit			
Undes. E. Gem Morrow Gas				Morrow				Laguna Deep Federal Unit			
Completion Date		Total Depth		Plug Back TD		Elevation		Form or Lease Name			
5-7-90		13560		13540		3624.5		Laguna Deep Federal Unit			
Csq. Size	Wt.	d	Set At	Perforations:				Well No.			
5-1/2"	17#		13560	From 13194		To 13424		4			
Thg. Size	Wt.	d	Set At	Perforations:				Unit			
2-7/8"	6.5#	2.441	13076	From		To		Sec. 26 Twp. 19S Rge. 33E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple								Packer Set At		County	
Single								13076		Lea	
Producing Thru		Reservoir Temp. °F		Mean Annual Temp. °F		Baro. Press. - P _a		State			
Tbg		207 13368		60		13.2		N.M.			
L	H	Gg	% CO ₂	% N ₂	% H ₂ S	Prover		Meter Run		Taps	
13309		.686	.67	.57				3.068		FLG	

FLOW DATA						TUBING DATA		CASING 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
SI											
1.	3 x 1.25			860	3	93	3055		PKR		36 hrs.
2.	3 x 1.25			865	7	81	2865		"		1 hr.
3.	3 x 1.25			870	12.5	83	2755		"		1 hr.
4.	3 x 1.25			880	32	82	2647		"		1 hr.
5.							2365		"		1 hr.

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, Fpv	Rate of Flow Q, Mcfd
1.	7.577	51.18	873.2	.9697	1.207	1.084	492
2.	7.577	78.41	878.2	.9804	1.207	1.092	768
3.	7.577	105.07	883.2	.9786	1.207	1.092	1027
4.	7.577	169.09	893.2	.9795	1.207	1.094	1657
5.							

NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio	Mcft/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons	
2.					Specific Gravity Separator Gas	XXXXXXX
3.					Specific Gravity Flowing Fluid	XXXXX
4.					Critical Pressure	P.S.I.A.
5.					Critical Temperature	R

P_c 4468 P_c² 19963

NO.	P _c ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.793$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.629$
1		4257	18,122	1840.9		
2		4103	16,834	3128.4		
3		3961	15,689	4273.5		
4		3580	12,816	7146.6		
5						

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4,356$$

Absolute Open Flow		4356		Mcfd @ 15.025		Angle of Slope @		Slope, n	
Remarks:		Pressures are BHP at Mid Perfs.		Condensate gravity = 50.3° API at 60°F					
Approved By Division		Conducted By:		Calculated By:		Checked By:			
		David Wilkerson		Charles Pietsch		Charles Pietsch			