NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

FED LSE #NM0523215

Type Test: [x] Initial [ ] Annual [ ] Special				Test Date: 8/15/74	
Company: Phillips Petroleum Company		Connection: Llano Inc.			
Pool: Hat Mesa-Morrow		Formation: Morrow		Unit: —	
Completion Date: 7/15/74	Total Depth: 14,500'		Plug Back TD: 14,454'	Elevation: 3771' Gr.	Farm or Lease Name: Hat Mesa "A"
Csg. Size: 5½ / Wt.: 14,20,23 / d: / Set At: 14,500'			Perforations: From 13,760' To 14,300'		Well No.: 1
Tbg. Size: 2-7/8 / Wt.: 6.5 / d: / Set At: 13,610'			Perforations: From To		Unit: W / Sec.: 2 / Twp.: 21S / Rge.: 32E
Type Well – Single – Bradenhead – G.G. or G.O. Multiple: Single			Packer Set At: 13,610'		County: Lea
Producing Thru: Tubing	Reservoir Temp. °F: 170 @ 13,700'	Mean Annual Temp. °F: 60	Baro. Press. – P_a: 13.2		State: New Mexico

L	H	Gg	% CO_2	% N_2	% H_2S	Prover	Meter Run	Taps
13,610'	13,610'	.630	.60	.56	0		3"	Flange

	FLOW DATA				TUBING DATA		CASING DATA		
NO.	Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					3260	60	Packer		
1.	3.068 x 2.00	620	1	75	3170	81	"		1
2.	3.068 x 2.00	610	3	70	3085	81	"		1
3.	3.068 x 2.00	610	6	62	2989	81	"		1
4.	3.068 x 2.00	610	16	46	2600	79	"		1
5.									

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	21.32	25.16	633.2	.9859	1.260	1.057	704
2	21.32	43.24	623.2	.9905	1.260	1.058	1217
3	21.32	61.15	623.2	.9981	1.260	1.061	1740
4	21.32	99.86	623.2	1.014	1.260	1.068	2905
5							

NO.	P_t	Temp. °R	T_r	Z
1	.95	535	1.45	.895
2	.93	530	1.44	.894
3	.93	522	1.42	.889
4	.93	506	1.38	.876
5				

Gas Liquid Hydrocarbon Ratio 17,750 Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons 58.2 Deg.
Specific Gravity Separator Gas .630 XXXXXXXXX
Specific Gravity Flowing Fluid XXXXX .788
Critical Pressure 670 P.S.I.A. 666 P.S.I.A.
Critical Temperature 368 R 421 R

P_c 3273.2 P_c^2 10714

NO	P_w	P_w^2	$P_c^2 - P_w^2$
1	10133	3124.3	10140	574
2	9599	3101.7	9620	1094
3	9013	3009.0	9054	1660
4	6829	2626.2	6900	3814
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = \frac{10714}{3814}$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.81$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 5,987$

Absolute Open Flow 5987 Mcfd @ 15.025 Angle of Slope θ 55° Slope, n .70

Remarks: Calculations made by Electronic calculator Program based on New Mexico manual for back-pressure testing of gas wells.

Approved by Commission:	Conducted By:	Calculated By:	Checked By:
	Robert E. Lee	D. E. Simpson	