

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

Form C-122
Revised 9-1-65

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file*

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 5-25-72		Fed. Lse. NM0540701-A	
Company Phillips Petroleum Company				Connection Shut in pending connection			
Pool Carlsbad, South (Morrow) Gas				Formation Morrow		Unit ---	
Completion Date 5-21-72		Total Depth 11,875'		Plug Back TD 11,806'		Elevation 3217' Gr. 3237' DF	
Csg. Size 5-1/2"		Wt. 17#, 20#		Set At 3.434		Perforations: From 11,550' To 11,676'	
Tbg. Size 2-7/8"		Wt. 6.5#		Set At 2.441		Perforations: From --- To ---	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G. G. Multiple				Packer Set At 11,470'		Farm or Lease Name Drag-A	
Producing Thru Tubing		Reservoir Temp. °F 176 @ 11800		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2	
11550		H 11550		G _g .5782		% CO ₂ .0102	
				% N ₂ .0026		% H ₂ S ---	
				Prover ---		Meter Run 3"	
						Taps Flange	

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							4098	81	4085		
1.	3.068		2.00	800	10	76	2788	85	Atoka		1 hour
2.	"		"	780	17	72	2252	83	Completion		1 hour
3.	"		"	780	24	77	1731	85	Shut-In		1 hour
4.				780	28	74	1362	83	(tubing/casing		1 hour
5.									annulus)		

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mc/d
1	21.32	90.18	813.2	.9850	1.311	1.058	2627
2	"	116.12	793.2	.9887	"	1.059	3398
3	"	137.98	"	.9840	"	1.058	4015
4	"	149.03	"	.9868	"	1.059	4353
5							

NO.	P _t	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	---	Mcf/bbl.
					A.P.I. Gravity of Liquid Hydrocarbons	---	Deg.
1	Calculations made by electronic				Specific Gravity Separator Gas	.578	X X X X X X X X
2	calculator. Program based on				Specific Gravity Flowing Fluid	X X X X X	
3	New Mexico - manual for back-				Critical Pressure	672	P.S.I.A. P.S.I.A.
4	pressure testing of gas wells.				Critical Temperature	349	R R
5							

F_c 4111.2 P_c^2 16902				
NO.	P_c^2	P_w	P_w^2	$P_c^2 - P_w^2$
1	7847	2815.9	7929	8973
2	5131	2291.7	5252	11650
3	3042	1792.0	3211	13691
4	1891	1447.7	2096	14806
5				

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{16902}{14806}$$
$$ACF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{4968}{14806} = 0.3355$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{1.1415}{0.3355} = 3.4021$$

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{16902}{14806}$$

$$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.1415$$

$$ACF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4968$$

FIELD

Absolute Open Flow 4,968 Mc/d @ 15.428 Angle 16.72 Slope 45 Slope, n 1.00

Remarks:			
APTECIA. OFFICE			
Approved By Commission:	Conducted By:	Calculated By:	Checked By:
	D. E. Simpson	D. E. Simpson	W. J. Mueller