

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 6-22-78			
Company Harvey E. Yates Company				Connection El Paso Natural Gas Company				JUN 29 1978	
Pool Undesignated So. Empire Morrow				Formation Morrow				Unit O.C.C. ARTEBIA, OFFICE	
Completion Date 6-2-78		Total Depth 11010		Plug Back TD 10968 KB		Elevation 3643.4 GR		Farm or Lease Name Empire So. Deep Unit	
Csg. Size 5 1/2	Wt. 17	d	Set At 11010	Perforations: From 10722 To 10758		Well No. 18			
Tbg. Size 2 7/8	Wt. 6.5	d	Set At 10680KB	Perforations: From To		Unit Sec. Twp. Rge. 30 17S 29E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 10680KB		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 160 @ 10640		Mean Annual Temp. °F 70		Baro. Press. - P _a 13.2		State New Mexico	
L 10740	H 10740	G _g 0.657	% CO ₂	% N ₂	% H ₂ S	Prover	Meter Run X	Taps Flange	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
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
Sl	77 hrs.		L-10	L-10			3121		Pkr.		
1.	4" X 2"		8.9	0.75	103		3080	70	Pkr.		1 hr.
2.	4" X 2"		8.95	2.85	91		2977	70	Pkr.		1 hr.
3.	4" X 2"		8.9	1.5	94		3062	70	Pkr.		1 hr.
4.	4" X 2"		9.0	5.8	75		2738	70	Pkr.		1 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$ L-10 3.162	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{pv}	Rate of Flow Q, Mcfd
1	19.81	6.675	805.3	0.9610	1.234	1.064	527.57
2	19.81	25.507	814.2	0.9715	1.234	1.068	2045.66
3	19.81	13.350	805.3	0.9688	1.234	1.067	1066.69
4	19.81	52.200	823.2	0.9859	1.234	1.080	4296.23
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	1.20	563	1.50	0.884	42.667	55.0	0.657	X X X X X	670	375
2	1.22	551	1.47	0.877				X X X X X		
3	1.20	554	1.48	0.878						
4	1.23	535	1.43	0.858						
5										

NO.	P _f	P _s	P _s ²	P _f ² - P _s ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 5.9328599$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3.42645$
1	4287.2	18380				
1	4258.2	18132	248			
2	4162.2	17324	1056			
3	4248.2	18047	333			
4	3909.2	15282	3098			
5						

Absolute Open Flow 14,720.8 Mcfd @ 15.025				Angle of Slope 55° 20'		Slope, n 0.691671	
Remarks: BHP measured with Amerada RPG-3 gauge serial no. 42344, 0-6000 psig.							
Approved By Commission:		Conducted By: Teffteller, Inc.		Calculated By: B. Combest		Checked By:	