

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR **SEP 18/90**

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 9/8/90		C. D. ARTESA OFFICE	
Company Enron Oil & Gas Company			Connection Llano		
Facility Malaga			Formation Strawn <i>400a</i>		
Completion Date 4/27/90		Total Depth 12,050		Plug Back TD 11,957	
		Elevation 2974' GL		Farm or Lease Name Malaga 2 State Com	
Cas. Size 4 1/2	Wt. 15.1#	d 3.826	Set At 12,047	Perforations: From 11,542 To 11,550	
Trg. Size 2 3/8	Wt. 4.7#	d 1.995	Set At 10,164	Perforations: From Open To Ended	
Type Well - Single - Brdenhead - G.C. or G.O. Multiple Dual				Packer Set At 10,164	
Producing Thru TBG		Reservoir Temp. °F 176 @ 10164		Mean Annual Temp. °F 60	
		Baro. Press. - P _a 13.2		State New Mexico	
L 10164	H 10164	C _g 0.641	% CO ₂ 0.61	% N ₂ 0.44	% H ₂ S
Prover		Meter Run 4.026		Taps FLG.	

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
SI							4445		PKR		72 hr.
1.	4 x 2.375			540	6.00	63	4057		"		1 hr.
2.	4 x 2.375			580	18.00	46	3650		"		1 hr.
3.	4 x 2.375			640	38.00	40	3099		"		1 hr.
4.	4 x 2.375			730	66.00	45	2110		"		1 hr.
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, F _{sp}	Rate of Flow Q, Mld
1	28.98	57.61	553.2	.9971	1.249	1.056	2,196
2	28.98	103.33	593.2	1.014	1.249	1.071	4,062
3	28.98	157.55	653.2	1.020	1.249	1.078	6,270
4	28.98	221.48	743.2	1.015	1.249	1.090	8,869
5							

NO.	R ₁	Temp. °R	T ₁	Z	Gas Liquid Hydrocarbon Ratio _____ Dry Gas _____ Mcl/ubl.		
					A.P.I. Gravity of Liquid Hydrocarbons _____ Dry _____ Deg.		
					Specific Gravity Separator Gas _____ .641 _____ XXXXXXXXXX		
					Specific Gravity Flowing Fluid _____ XXXXX		
					Critical Pressure _____ 670 _____ P.S.I.A. _____ P.S.I.A.		
					Critical Temperature _____ 372 _____ R _____ R		

P _c 4458.2 P _c ² 19875.5				(1) $\frac{P_c^2}{P_e^2 - P_w^2} = 1.516$		(2) $\left[\frac{P_e^2}{P_c^2 - P_w^2} \right]^n = 1.493$	
NO.	P ₁ ²	P _w	P ₂ ²	P ₂ ² - P _w ²			
1		4090.9	16735.5	3140.0			
2		3700.8	13969.0	5906.5			
3		3303.7	10914.6	8960.9			
4		2600.2	6761.1	13114.4			
5							

Absolute Open Flow _____ 13,241 _____ Mld @ 15.025				Angle of Slope @ _____ 46°		Slope, n _____ .964	
Remarks: _____ Made 2.5 BBL H ₂ O in 4 hours.							
Approved By Division		Conducted By: Jarrel Services, Inc.		Calculated By: Bob Murray		Checked By: Bob Murray 9/17/90	