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File

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

DEC 26 '90

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 11/1/90			
Company Enron Oil & Gas Company				Connection None Llano				ARTESIA, OFFICE	
Pool Malaga				Formation Atoka Banks				Unit	
Completion Date 10/24/90		Total Depth 12100		Plug Back TD 11986		Elevation 2956 - GL		Farm or Lease Name Malaga 1 Com.	
Coq. Size 4 1/2	Wt. 15#	d 3.286	Set At 12098'	Perforations: From 11827 To 11905		Well No. 1			
Trq. Size 2 7/8 & 2 3/8	Wt. 6.5 & 4.7	d 2.441 1.995	Set At 10329 11950	Perforations: From OPEN To ENDED		Unit C	Sec. 1	Twp. 24s	Rge. 28e
Type Well - Single - Bradenhead - G.C. or G.O. Multiple Single						Packer Set At 10329		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 200 @ 11900		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State New Mexico	
L 11896	H 11896	Cg .580	% CO ₂ 1.39	% N ₂ .60	% 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							3172		PKR		72 hrs
1.	4 x	1.000		615	16.00	74	3031		"		1 hr
2.	4 x	1.000		615	32.00	68	2880		"		1 hr
3.	4 x	1.000		615	51.00	61	2702		"		1 hr
4.	4 x	1.000		615	94.00	64	2455		"		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 F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mscf/d
1	4.753	100.26	628.2	.9868	1.313	1.049	648
2	4.753	141.78	628.2	.9924	1.313	1.049	921
3	4.753	178.99	628.2	.9990	1.313	1.056	1,178
4	4.753	243.00	628.2	.9962	1.313	1.049	1,585
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Dry Gas _____ Mcl/ubl.
1	.92	534	1.53	.909	A.P.I. Gravity of Liquid Hydrocarbons _____ Dry _____ Deg.
2	.92	528	1.51	.909	Specific Gravity Separator Gas .580 XXXXXXXXXX
3	.92	521	1.49	.897	Specific Gravity Flowing Fluid XXXXX
4	.92	524	1.50	.909	Critical Pressure * 676 P.S.I.A. _____ P.S.I.A. _____
5					Critical Temperature * 349 R _____ R _____

P _c 3185.2	P _c ² 10145.5	(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 2.524$		(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 1.819$	
NO.1	P _r ²	P _w	P _w ²	P _r ² - P _w ²	
1		3045.2	9273.1	872.4	
2		2895.3	8382.5	1763.0	
3		2718.5	7391.6	2753.9	
4		2475.2	6126.6	4018.9	
5					

AOFP = 0 $\left[\frac{P_r^2}{P_c^2 - P_w^2} \right]^n = 2.883$

Absolute Open Flow 2,883 Mscf @ 15.025 Angle of Slope 57.1 Slope, n .646

Remarks: * = Corrected to 1.39% CO₂
No fluid produced during test

Approved By Division	Conducted By: Jarrel Services, Inc.	Calculated By: Bob Murray	Checked By: Bob Murray
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