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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

89

Form C-122
Revised 10-1-78

OFFICE

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test: [X] Initial [ ] Annual [ ] Special				Test Date: 10-23-89	
Company: Enron Oil & Gas Company		Connection: None			
Pool: ~~Willow Lake~~ Morlan Atoka		Formation: Atoka		Unit	
Completion Date: 10-4-89	Total Depth: 11829	Plug Back TD: 11746	Elevation: 3021' KB	Farm or Lease Name: Willow Lake 15	
Csg. Size: 4½ / Wt.: 15.10 / d: 3.826 / Set At: 11828		Perforations: From 11664 To 11674		Well No.: 1	
Tbg. Size: 2 7/8 / 2 3/8 / Wt.: 6.5 / 4.6 / d: 2.441 / 1.995 / Set At: 10184 / 11644		Perforations: From Open To Ended		Unit: 0 / Sec.: 15 / Twp.: 24s / Rge.: 28e	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple: single		Packer Set At: 10179		County: Eddy	
Producing Thru: tubing	Reservoir Temp. °F: 177 @ 11669	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
-	-	0.583	0.31	0.46	-	-	4.026	FLG

NO.	FLOW DATA: Prover Line Size X Orifice Size	Press. p.s.i.g.	Diff. h_w	Temp. °F	TUBING DATA: Press. p.s.i.g. DWT	Temp. °F	CASING DATA: Press. p.s.i.g.	Temp. °F	Duration of Flow
SI					4577	60	packer		103.75 hrs.
1.	4.026 x 1.500	520	4	100	4417				1.0 hrs
2.	4.026 x 1.500	535	20	89	4055				1.0 hr.
3.	4.026 x 1.500	480	32	87	3895				1.0 hr.
4.	4.026 x 1.500	520	90	74	3315				1.0 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, Fpv	Rate of Flow Q, Mcfd
1	10.84	46.18	533.2	0.9636	1.310	1.030	650.86
2	10.84	104.71	548.2	0.9732	1.310	1.034	1496.27
3	10.84	125.63	493.2	0.9750	1.310	1.031	1793.32
4	10.84	219.06	533.2	0.9868	1.310	1.038	3186.33
5							

NO.	P_t	Temp. °R	T_r	Z
1	0.79	560	1.62	0.942
2	0.81	549	1.59	0.935
3	0.73	547	1.58	0.940
4	0.79	534	1.54	0.928
5				

Gas Liquid Hydrocarbon Ratio: TSTM Mcf/bbl.
A.P.I. Gravity of Liquid Hydrocarbons: 51 Deg.
Specific Gravity Separator Gas: 0.583 XXXXXXXXX
Specific Gravity Flowing Fluid: XXXXX
Critical Pressure: 675 P.S.I.A. ____ P.S.I.A.
Critical Temperature: 346 R ____ R

P_c 5742.2* P_c^2 32972.9

NO	P_t^2	P_w	P_w^2	$P_c^2 - P_w^2$
1		5594.2	31295.1	1677.8
2		5147.2	26493.7	6479.2
3		5013.2	25132.2	7840.7
4		4354.2	18959.1	14013.8
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.353$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 2.303$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2}\right]^n = 7338.118$

Absolute Open Flow: 7338 Mcfd @ 15.025 Angle of Slope θ: 45°44' Slope, n: 0.975

Remarks: *Bottom hole pressures @ 11669' (-8648) used for pressure calculations. Well produced small amount of condensate during 4th rate - too small to measure

Approved By Division	Conducted By:	Calculated By:	Checked By:
	Jarrel Services Ind	D. Dickerson	D. Dickerson