

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

Form C-122
 Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 3-23-88	
Company BTA Oil Producers				Connection Llano, Inc.			
Pool Antelope Ridge				Formation Atoka		Unit	
Completion Date 3-5-88		Total Depth 12,500'		Plug Back TD 12,480'		Elevation 3,426' KB	
Farm or Lease Name Maddox, Fed B, 8016 JV-P							
Csg. Size 5"	Wt. 23.2	d 4.044	Set At 12,500'	Perforations: From 12,252' To 12,374'		Well No. 2	
Tbg. Size 2-7/8"	Wt. 6.5	d 2.441	Set At 12,092'	Perforations: From To		Unit E	Sec. 35
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 10,685'		County Lea	
Producing Thru Tubing		Reservoir Temp. °F 183 @ 12,313'		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
State New Mexico							
L 12,092'	H 12,092'	G _g 0.694	% CO ₂ 0.24	% N ₂ 1.37	% H ₂ S 0.00	Prover	Meter Run 4.026
						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
SI	4.026" X 1.750"							70 ⁰	Pkr	70 ⁰	SI 438 Hr
1.	4.026" X 1.750"			545	2.3	89	3370	70	Pkr		60 Min
2.	4.026" X 1.750"			605	13	57	2870	75	Pkr		60 Min
3.	4.026" X 1.750"			515	30	75	2640	75	Pkr		60 Min
4.	4.026" X 1.750"			525	38	64	2375	86	Pkr		90 Min
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 _{pv}	Rate of Flow Q, Mcfd
1	14.93	35.83	558.2	0.9732	1.200	1.054	658
2	14.93	89.65	618.2	1.003	1.200	1.077	1735
3	14.93	125.88	528.2	0.9859	1.200	1.056	2348
4	14.93	179.70	538.2	0.9962	1.200	1.063	2720
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	17.043	Mcf/bbl.
1.	0.84	549	1.43	0.901	A.P.I. Gravity of Liquid Hydrocarbons	540 API @ 600 F	Deg.
2.	0.93	517	1.34	0.862	Specific Gravity Separator Gas	0.694	XXXXXXX
3.	0.79	535	1.39	0.897	Specific Gravity Flowing Fluid	XXXXX	
4.	0.81	524	1.36	0.885	Critical Pressure	668	P.S.I.A.
5.					Critical Temperature	385	P.S.I.A.

P _r 5332.2 P _r ² 28,432						
NO.	P _r ²	P _s	P _s ²	P _r ² - P _s ²	(1) $\frac{P_r^2}{P_r^2 - P_s^2} = 2.06$	(2) $\left[\frac{P_r^2}{P_r^2 - P_s^2} \right]^n = 2.06$
1		5019.2	25192	3240	$AOF = Q \left[\frac{P_r^2}{P_r^2 - P_s^2} \right]^n = 5616$	
2		4411.2	19459	8974		
3		4161.2	17316	11117		
4		3829.2	14663	13770		
5						

Absolute Open Flow	5616	Mcf/d @ 15.025	Angle of Slope @	450	Slope, n	1.000
--------------------	------	----------------	------------------	-----	----------	-------

Remarks: Bottom hole pressure measured by Jarrell Services, Inc.

Approved By Commission: Original Signed by Paul Kautz Geologist	Conducted By: BTA Oil Producers	Calculated By: T. J. Williams	Checked By:
--	------------------------------------	----------------------------------	-------------