

NEW 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 9-28-87			
Company BTA OIL PRODUCERS				Connection Llano, Inc.					
Pool Gem, East				Formation Morrow				Unit	
Completion Date 8-25-87		Total Depth 13,700		Plug Back TD 13,612'		Elevation 3,587' GR		Farm or Lease Name Gem, 8705 JV-P	
Csg. Size 5-1/2	Wt. 20&23	d 4.670	Set At 13,700	Perforations: From 13,465 To 13,515'		Well No. 1			
Tbg. Size 2-7/8	Wt. 6.5	d 2.441	Set At 12,982	Perforations: From To		Unit Sec. Twp. Rge. B 2 20-S 33-E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 12,982		County Lea	
Producing Thru Tubing		Reservoir Temp. °F 178 @ 13,490		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State New Mexico	
L 12982	H 12982	Gg 0.672	% CO ₂ 0.59	% N ₂ 0.5	% H ₂ S 0.0	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 1.7500"							75	Pkr	75	SI Days
1.	4.026" X 1.7500"			595	4.0	66	3434	76	Pkr		60 min
2.	4.026" X 1.7500"			605	8.5	50	3078	77	Pkr		60 min
3.	4.026" X 1.7500"			615	21	38	2850	78	Pkr		60 min
4.	4.026" X 1.7500"			635	35	60	2605	79	Pkr		60 min
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	14.93	49.32	608.2	0.9943	1.220	1.068	954
2.	14.93	72.49	618.2	1.0100	1.220	1.076	1435
3.	14.93	114.86	628.2	1.0220	1.220	1.087	2324
4.	14.93	150.62	648.2	1.0000	1.220	1.076	2952
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.	0.91	526	1.370	0.876	A.P.I. Gravity of Liquid Hydrocarbons	50.8 @ 60°F
2.	0.92	510	1.34	0.863	Specific Gravity Separator Gas	.672
3.	0.94	498	1.30	0.846	Specific Gravity Flowing Fluid	X X X X X
4.	0.97	520	1.36	0.864	Critical Pressure	669 P.S.I.A.
5.					Critical Temperature	382 R

$P_F = 5892$ $P_F^2 = 34716$				$(1) \frac{P_F^2}{P_F^2 - P_S^2} = 9.024$		$(2) \left[\frac{P_F^2}{P_F^2 - P_S^2} \right]^n = 8.808$	
NO	P _t ²	P _s	P _s ²	P _F ² - P _s ²			
1		5556	30869	3847			
2		5348	28601	6115			
3		5010	25100	9616			
4		4760	22658	12058			
5							

$AOF = Q \left[\frac{P_F^2}{P_F^2 - P_S^2} \right]^n = 8403$			
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Absolute Open Flow	8403	Mcf/d @ 15.025	Angle of Slope @	44.68°	Slope, n	0.989
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Remarks: Bottomhole pressure were measured by Flopetrol-Johnson Amerada RGP-3 Gauge K-3/35048	
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Approved By Commission: Paul Kautz Geologist	Conducted By: BTA OIL PRODUCERS	Calculated By: T. J. Williams	Checked By:
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