

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

Form C-122
Revised 9-1-65

38-D25-33930

Type Test ☒ Initial ☐ Annual ☐ Special					Test Date 12/31/97	
Company SANTA FE ENERGY RESOURCES INC.				Connection LG&E on 12/9/97		
Pool West Ojo Chiso (Morrow)				Formation Morrow		Unit
Completion Date 11/25/97		Total Depth 13,440'		Plug Back TD 13,220'		Elevation 3454
Farm or Lease Name GAUCHO UNIT						
Cas. Size 4.5 L	Wt. 13.50	d 3.92	Set At	Perforations: From 12944 To 12976		Well No. 4
Tub. Size 2.375	Wt. 4.60	d 1.995	Set At 12831	Perforations: From To		Unit Sec. Twp. Rje. G, 20, 22S, 34E
Type Well - Single - Brdenhead - G.G. or G.O. Multiple SINGLE				Packer Set At 12,870		County BDDY Lea
Producing Thru TUBING		Reservoir Temp. °F 189 @ 12831		Mean Annual Temp. °F 60		Baro. Press. - P _g 13.2
State NM						
L 12831	H 12831	G _g 0.581	% CO ₂ 0.40	% N ₂ 0.42	% H ₂ S 0.00	Prover Meter Run 2.900
						Taps FLANGE

FLOW DATA						TUBING DATA		CASING DATA		Time 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							5872	60	-	-	29.1 hrs
1.	2.900 X 1.750			771	2.5	64	5865	61	-	-	1.0
2.	2.900 X 1.750			775	9.0	74	5847	60	-	-	1.25
3.	2.900 X 1.750			782	26.4	76	5807	66	-	-	2.0
4.	2.900 X 1.750			798	187.0	71	5477	58	-	-	4.0
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	15.87	44.27	783.8	0.9961	1.3119	1.0627	976
2	15.87	84.21	787.9	0.9866	1.3119	1.0583	1830
3	15.87	144.85	794.8	0.9849	1.3119	1.0579	3142
4	15.87	389.41	810.9	0.9894	1.3119	1.0614	8513
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio 732.516 Mcf/bbl.
1	1.16	524	1.49	0.885	A.P.I. Gravity of Liquid Hydrocarbons 52.0 Deg.
2	1.17	534	1.52	0.893	Specific Gravity Separator Gas 0.581
3	1.18	536	1.53	0.893	Specific Gravity Flowing Fluid XXXXX
4	1.20	531	1.51	0.888	Critical Pressure 674 P.S.I.A.
5					Critical Temperature 351 R

P _c 5905.3 P _c ² 34873			
NO.	P _i ²	P _w	P _w ²
1		5901	34825
2		5896	34768
3		5887	34660
4		5831	33996
5			

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 39.7678$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 122795$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 14.4239$

Absolute Open Flow 122795 Mcfd @ 15.025	Angle of Slope @ 54.1	Slope, n 0.7243
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Remarks: Bottomhole Pressures measured w/ Electronic Gauge # 20282

Approved by Commission:	Conducted By: ARC PRESSURE DATA, INC.	Calculated By: <i>Ed Rodman</i>	Checked By:
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