

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 12-12-91	
Company SANTA FE ENERGY OPER PTH & P				Connection Enron Trans Pipeline	
Pool Bilbrey				Formation Morrow Bilbrey Sand	
Completion Date		Total Depth 14569		Plug Back TD 13781	
				Elevation 3681	
Farm or Lease Name Bilbrey 28 Federal					
Csq. Size 4.500	Wt. 13.5	d 0	Set At 0	Perforations: From 13900 To 13910	
Thq. Size 2.375	Wt. 4.7	d 0	Set At 0	Perforations: From 0 To 0	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				Packer Set At 13746	
Producing Thru 198 # 13694				Baro. Press. - P _a 13.2	
Mean Annual Temp. °F 60				County Lea	
L 13900	H 2	G _g .606	% CO ₂ 0	% N ₂ 0	% H ₂ S 0
				Prover 0	Meter Run 3.1
				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									6388	198	188.0
1.	3.07 X 1.625			870	13.0	69	0	0	6332	198	1.5
2.	3.07 X 1.625			900	110.0	60	0	0	6288	198	1.5
3.	3.07 X 1.625			895	82.0	65	0	0	6199	198	1.5
4.	3.07 X 2.000			922	59.0	61	0	0	6099	198	1.3
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor F _{pv}	Rate of Flow Q, Mcfd
1	13.24	107.15	883.2	.9915	1.2846	1.0765	1945.
2.	13.24	316.94	913.2	1.0000	1.2846	1.0851	5848.
3	13.24	272.90	908.2	.9952	1.2846	1.0813	4993.
4.	21.32	234.90	935.2	.9990	1.2846	1.0865	6982.
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	1.31	529	1.47	.863	64.8	49.9	.606	X X X X X X X X	672	360
2.	1.36	520	1.44	.849				X X X X X	P.S.I.A. 670	R 374
3.	1.35	525	1.46	.855						
4.	1.39	521	1.45	.847						
5										

NO.	P _r ²	P _w	P _w ²	P _c ² - P _w ²
1	40262	6345	40259	714
2	39705	6301	39702	1270
3	38591	6212	38588	2384
4	37359	6112	37356	3616
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 11.3303$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 6.7626$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 47216.$

Absolute Open Flow 47216. Mcfd @ 15.025

Angle of Slope θ 51.8

Slope, n .787

Remarks: _____

Approved By Division	Conducted By: <u>SCHLUMBERGER</u>	Calculated By: <u>Y.E. Williams</u>	Checked By:
----------------------	--------------------------------------	--	-------------