

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

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File

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 09-Mar-88		MAR 31 '88	
Company Santa Fe Energy				Connection ✓		O. C. ID.	
Pool S. SAND DUNES H/ PENN GAS				Formation Morrow		Unit ARTESIAN, CORRIE	
Completion Date 3-9-88		Total Depth 15,241		Plug Back TD 15,150		Elevation 3435.3 GL	
Form or Lease Name Sterling Silver				Well No. "3" Federal #1			
Csg. Size 4 1/2" Line		Set At 15,241		Perforations: From 14719 To 14759		Unit Sec. Twp. Rge. E 3 24S 3E	
Tub. Size 2 3/8		Set At 14,323		Perforations: From To		County Eddy	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				Packer Set At		State New Mexico	
Producing Thru Tubing		Reservoir Temp. °F 215 @ 14729		Mean Annual Temp. °F 60		Baro. Press. - P _g 13.2	
L 14729		H 14729		G _g 0.5734		% CO ₂ 1.012	
				% N ₂ 0.144		% H ₂ S -	
				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							6025				146 Hrs.
1.	4.026 x 0.750			620	2.5	64	5610		5721		1
2.	"			620	6	80	5320		5321		1
3.	"			625	10	86	5010		4920		1
4.	"			625	18	86	4570		4518		1
5.	"			625	30	86	3990				1

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _{ra}	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	2.661	39.76	632.2	0.9962	1.3206	1.0178	141.7
2.	"	61.59	632.2	0.9813	"	"	216.2
3.	"	79.82	637.2	0.9759	"	1.0180	279.7
4.	"	107.10	637.2	0.9759	"	"	373.9
5.	"	138.26	637.2	0.9759	"	"	482.7

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	No Liquids	Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons		Deg.
2.	USED SIMPLIFIED SURFACE				Specific Gravity Separator Gas	0.5734	XXXXXXX
3.					Specific Gravity Flowing Fluid	XXXXX	
4.	COMPRESSIBILITY TABLE				Critical Pressure	672	P.S.I.A.
5.					Critical Temperature	346	R

P _r 7814 P _s 61059					(1) $\frac{P_r^2}{P_r^2 - P_s^2} = 2.4698$		(2) $\left[\frac{P_r^2}{P_r^2 - P_s^2} \right]^n = 2.4562$	
NO.	P _r ²	P _s ²	P _r ² - P _s ²		AOF = Q $\left[\frac{P_r^2}{P_r^2 - P_s^2} \right]^n = 1185.6$ Post ID-2 5-6-88 comp & BK			
1	7417	55012	6047					
2	7075	50056	11003					
3	6834	46704	14355					
4	6539	42759	18300					
5	6028	36337	24722					

Absolute Open Flow 1185.6		Mcf/d @ 15.025		Angle of Slope @ 45.2		Slope, n 0.9939	
Remarks: Bottom hole pressure data recorded with instrument #K3-15246 at 14729 feet.							
Approved By Division		Conducted By: FLOPETROL JOHNSTON		Calculated By:		Checked By:	