

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

O. C. D.
ARTESIA, OFFICE

Type Test ☒ Initial ☐ Annual ☐ Special		1/30/91	
Company SANTA FE ENERGY		Connection LLANO PIPELINE	
Pool N/A Sand Dunes Atoka		Formation ATOKA	
Completion Date 1-17-91		Total Depth 15136	Plug Back TD 14380
Elevation 3449 KO		Farm or Lease Name STERLING SILVER	
Csg. Size 4.500	Wt. 13.5	d 3.920	Set At 15220
Perforations: From 13716 To 13739		Well No. 34 FED	
Ing. Size 2.375	Wt. 4.7	d 1.995	Set At 13601
Perforations: From 0 To 0		Unit Sec. Twp. Rge. S34-T235-R31E	
Type Well - Single - Bradenhead - G.C. or G.O. Multiple SINGLE (GAS)		Packer Set At 13601	
Producing Thru TBG. (GAS)		Reservoir Temp. °F 197 @ 13728	Mean Annual Temp. °F 60
Baro. Press. - P _a 13.2		State N.M.	
L 13728	H 13728	Gg .591	% CO ₂ .77
% N ₂ 1.15		% H ₂ S 00	Prover 0
Meter Run 2.0		Taps FLANGE	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
SI							5420	60			72
1.	2.00 X	.500		540	13.0	58	5220	60	0	0	2.0
2.	2.00 X	.875		540	3.0	59	5140	60	0	0	1.0
3.	2.00 X	.875		540	15.0	60	4840	60	0	0	1.0
4.	2.00 X	.875		540	34.0	60	4430	60	0	0	1.0
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	1.19	84.80	553.2	1.0019	1.3008	1.0463	138
2	3.74	40.74	553.2	1.0010	1.3008	1.0460	208
3	3.74	91.09	553.2	1.0000	1.3008	1.0456	464
4	3.74	137.15	553.2	1.0000	1.3008	1.0456	698
5.							

NO.	F _t	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	.82	518	1.47	.913	0	0	.591	.591	674	351
2	.82	519	1.48	.914						
3	.82	520	1.48	.915						
4	.82	520	1.48	.915						
5										

NO.	P _i ²	P _w	P _w ²	P _c ² - P _w ²	(1) $\frac{P_c^2}{P_c^2 - P_w^2}$	(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n$
1	27386	5237	27426	2093	3.0349	3.0349
2	26555	5157	26594	2926		
3	23554	4858	23597	5923		
4	19742	4449	19793	9727		
5						

$$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2118$$

Absolute Open Flow	2118	Mcfd @ 15.025	Angle of Slope	45.0	Slope, n	1.000
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Remarks: CHOKE SIZES: 1ST RATE 6/64 2ND RATE: 7/64
3RD RATE: 8/64 4TH RATE: 10/64

Approved By Division	Conducted By: BENNETT-CATHEY	Calculated By: JIM SMITH P.E.	Checked By: MONTY RANDOLPH
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