

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

RECEIVED
JUL 26 1991
Form C-122
Revised 10-1-78

O. C. D.
ARTESIA, OFFICE

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Type Test ☒ Initial ☐ Annual ☐ Special				Test Date 07-08-91	
Company Santa Fe Energy Resources, Inc.				Connection Vented	
Pool <i>Mosley Lanigan Strawn</i>				Formation <i>Strawn</i>	
Completion Date 7-8-91		Total Depth 11,570		Plug Back TD 10,400	
				Elevation 4390 GR	
Csg. Size 5 1/2		Wt. 17		Set At 10,504	
Perforations: From 10,168 To 10,206				Well No. 1	
Tbg. Size 2 7/8		Wt. 6.5		Set At 9928	
Perforations: From OPEN To END				Unit Sec. Twp. Rye. 0 17-24-25	
Type Well - Single - Broadhead - G.C. or G.O. Multiple Single				Packer Set At 9928	
Producing Thru Tubing		Reservoir Temp. °F 176 @ 10,168		Mean Annual Temp. °F 60	
				Baro. Press. - P _a 13.2	
State New Mexico					
L 10,168	H 10,168	G _g .621	% CO ₂ .46	% N ₂ 1.04	% H ₂ S --
Prover		Meter Run 3.068		Taps Flange	

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. in. hg	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
SI							1900		PKR		72 hrs.
1.	3	X	1.000	540	5.00	88	1790		PKR		1 hr.
2.	3	X	1.000	540	10.00	88	1640		PKR		1 hr.
3.	3	X	1.000	550	19.00	88	1780		PKR		1 hr.
4.	3	X	1.000	545	52.00	88	1520		PKR		1 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor F _L	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mcf/d
1	4.789	52.59	553.2	.9741	1.269	1.044	352
2	4.789	74.38	553.2	.9741	1.269	1.044	460
3	4.789	103.44	563.2	.9741	1.269	1.044	639
4	4.789	170.37	558.2	.9741	1.269	1.044	1,053
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio <u>DRY GAS</u> Mcf/bbl.	
1.	.82	548	1.51	.918	A.P.I. Gravity of Liquid Hydrocarbons <u>DRY</u>	Deq.
2.	.82	548	1.51	.918	Specific Gravity Separator Gas <u>.621</u>	X X X X X X X X
3.	.84	548	1.51	.917	Specific Gravity Flowing Fluid <u>X X X X X</u>	
4.	.83	548	1.51	.918	Critical Pressure <u>*670</u> P.S.I.A.	P.S.I.A.
5.					Critical Temperature <u>*362</u> °R	°R

P_c 1913.2		P_c^2 3660.3				
NO	P_1^2	P_w	P_r^2	$P_r^2 - P_w^2$	(1) $\frac{P_c^2}{P_r^2 - P_w^2} = \underline{2.819}$	(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = \underline{2.663}$
1		1803.5	3252.8	407.6		
2		1653.8	2735.2	925.1		
3		1794.3	3219.7	440.7		
4		1536.9	2362.0	1298.4		
5						

$\Delta OF = 0$

$\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = \underline{2.804}$

Absolute Open Flow 2,804 Mcf/d @ 15.025 Angle of Slope θ 46.6 Slope, n .945

Remarks: *=corrected to 1.04% N₂
Well produced 1 BBL H₂O during test

**=calculated equivalent length for 9928' 2.441 ID tbg & 240' 4.892 ID csg.

Approved By Division _____ Conducted By: _____ Calculated By: _____ Checked By: _____
Pro Well Testers RM RM