

MULTIPOINT AND ONE POINT BACKPRESSURE TEST FOR GAS WELL

451

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date 7-22-82		RECEIVED	
Company SOUTHLAND ROYALTY CO. ✓		Connection NONE		OCT 1 1982	
Pool <i>Willcat Strawn</i> UNDESIGNATED		Formation STRAWN		Unit O.C.D.	
Completion Date 7-2-82 7-8-82		Total Depth 11,671		Plug Back TD 11,250	
Casing Size 4 1/2		Set At 11,671		Elevation 3553.1 ft	
Well No. 1		From 10,517 To 10,574		Holly Fed 5	
Perforations From To		Unit 0		Sec. 5	
Type of Well - Single - Production - G.O. or C.O. Multiple Single		Packer Set At 10,449		County Eddy	
Producing Zone Tbg.		Reservoir Temp. °F 178 @ 10,449		State New Mexico	
Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		Taps 2"	
10,449		10,449		.724	
CO ₂ 1.21		N ₂ 3.98		H ₂ S -0-	
Prover		Meter Run		Flg.	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Flow 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
51							2370				
1.	2.0 X 1.00			391	16"	74°	2240				60 min.
2.	2.0 X 1.00			394	55"	67°	2140				60 min.
3.	2.0 X 1.00			393	74"	66°	2055				60 min.
4.	2.0 X 1.00			515	75"	70°	1970				60 min.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_{in}}$	Pressure P _{in}	Flow Temp. Factor F _t	Gravity Factor F _g	Super Compress. Factor, F _{sp}	Rate of Flow Q, Mscf/d
1	4.946	80.42	404.2	.9868	1.175	1.044	481
2	4.946	149.65	407.2	.9933	1.175	1.045	903
3	4.946	173.59	407.2	.9943	1.175	1.047	1050
4	4.946	199.04	528.2	.9905	1.175	1.060	1214
5							

NO.	$\bar{r}$	Temp. °R	T_r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	.61	534	1.38	.918	3.234	49.1 @ 60
2	.61	527	1.37	.915		
3	.61	526	1.36	.913		
4	.79	530	1.37	.890		
5						

NO.	r_c	r_w	r_c^2	r_w^2	$r_c^2 - r_w^2$
1	2254.8	5084.3	595.3		
2	2159.2	4662.2	1017.4		
3	2076.6	4312.4	1367.2		
4	1994.9	3979.7	1699.9		
5					

(1) $\frac{r_c^2}{r_c^2 - r_w^2} = 3.341$		(2) $\left[\frac{r_c^2}{r_c^2 - r_w^2} \right]^n = 2.880$	
KOR = 0 $\left[\frac{r_c^2}{r_c^2 - r_w^2} \right]^n = 3.497$			

Absolute Open Flow	3,497	Mcf/d @ 15.025	Angle of Slope °	48.75	Slope, n	.885
Made 47 bbls. condensate and 1 bbl. of water during test. Due to excessive fluid the G-MIX gravity was not used, gas gravity was used instead.						

Approved by Division	EL PASO EXPLORATION CO.	Checked by	EL PASO EXPLORATION CO.
Reston & McGowen		Reston & McGowen	

SOUTHLAND ROYALTY COMPANY
 Holly Fed. No. 5
 0-5-18-30, Eddy County, New Mexico
 July 22, 1982

