

N MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

RECEIVED

Type Test ☐ Initial ☐ Annual ☒ Special						Test Date 12-20-71		000031971	
Company CITIES SERVICE OIL COMPANY				Connection					
Pool South Carlsbad				Formation Morrow				Unit ARTESIAL OFFICE	
Completion Date 7-24-71		Total Depth 11,760'		Plug Back TD 11710'		Elevation 3173.3		Farm or Lease Name Merland B	
Csg. Size 5 1/2"	Wt. 17	d 4.892	Set At 11758	Perforations: From To		Well No. 1			
Tbg. Size 2 3/8"	Wt. 4.6	d 1.995	Set At 11255	Perforations: From 11401 To 11470		Unit Sec. Twp. Rge. G 30 22S 27E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 11250		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 11700 140°		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2		State New Mexico	
L 11255	H 11255	Gg .583	% CO ₂ 1.0	% N ₂ .27	% H ₂ S --	Prover Orifice	Meter Run 2"	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.	
SI	72 hr. S.I.									
1.	2"		1.375	875	3	68	3273	68°		
2.	2"		1.375	880	11	75	2986	75°		
3.	2"		1.375	840	25	75	2566	75°		
4.	2"		1.375	875	58	79	1408	79°		
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	10.20	51.62	888.2	0.9924	1.310	1.067	730.37
2	10.20	99.12	893.2	0.9859	1.310	1.065	1390.76
3	10.20	146.05	853.2	0.9859	1.310	1.062	2043.44
4	10.20	226.97	888.2	0.9822	1.310	1.063	3166.82
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1	1.31	528	1.51	.878	--	
2	1.32	535	1.53	.882		
3	1.26	535	1.53	.887		
4	1.31	539	1.54	.885		
5						

$P_c = 4478.1$ $P_c^2 = 20,053.4$					$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{20,053.4}{15,915.8}$		$(2) \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = (1.26)^{.788} = 1.2$	
NO.	P _t	P _w	P _w ²	P _c ² - P _w ²				
1		4149.7	17220.0	2833.4				
2		3811.9	14530.6	5522.8				
3		3328.7	11080.2	8973.2				
4		2034.1	4137.6	15915.8				
5								

$AOF = Q \left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3,800$				Pt. 4	
Absolute Open Flow 3,800 Mcfd @ 15.025				Angle of Slope 0	
				Slope, n .788	

Remarks: P _w was taken from BHP bomb		
P _w before test = 4357.6	P _w 24 hr. after test = 4357.6	72 hr P _w = 4464.9
Dead weight before test = 3459		Dead wt. after test = 3567
Approved By Commission:	Conducted By:	Calculated By:
	Nichols & Talbott	David Talbott
		Checked By:
		Brad Bennett