

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

Form C-122
Revised 9-1-65

Test No. 1

Type Test ☐ Initial ☐ Annual ☒ Special				Test Date 1-6-72	
Company CITIES SERVICE OIL COMPANY				Connection Transwestern Pipeline Company	
Pool South Carlsbad				Formation Morrow	
Completion Date 10-5-71		Total Depth 11,750		Plug Back TD 11,700	
Elevation 3161 GL		Farm or Lease Name Merland A			
Csg. Size 5 1/2" liner	Wt. 17 & 20	d 4.778	Set At 11749	Perforations: From 11318 To 11653	
Tbg. Size 2 3/8"	Wt. 4.6	d 1.995	Set At 11240	Perforations: From To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11240	
Producing Thru Tubing		Reservoir Temp. °F 190° @ 11700		Mean Annual Temp. °F 60°	
Baro. Press. - P _a 13.2		State New Mexico			
L 11240	H 11240	Gg 0.582	% CO ₂ 1.02	% N ₂ 0.25	% 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.		Temp. °F
SI	72 hrs. S.I.						3132		3862		
1.	2 x 1.250			860	5	71	2937		3749		1 hr.
2.	2 x 1.250			870	15	75	2784		3573		1 hr.
3.	2 x 1.250			870	32	77	2586		3359		1 hr.
4.	2 x 1.250			878	54	74	2246		2945		2 hrs.
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	8.120	66.08	873.2	0.9896	1.311	1.062	740
2	8.120	115.10	883.2	0.9859	1.311	1.063	1284
3	8.120	168.11	883.2	0.9840	1.311	1.063	1872
4	8.120	219.37	891.2	0.9868	1.311	1.065	2454
5							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.	1.29	531	1.53	.885	A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.	1.31	535	1.54	.885	Specific Gravity Separator Gas .582 XXXXXXXXXX
3.	1.31	537	1.54	.885	Specific Gravity Flowing Fluid XXXXXX
4.	1.32	534	1.53	.882	Critical Pressure 672 P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature 350 R _____ R

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1		3762.2	14,154.1	3078.4
2		3586.2	12,860.8	4371.7
3		3372.2	11,371.7	5860.8
4		2958.2	8,750.9	8481.6
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.94$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.06$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 7600$

Point 3

Absolute Open Flow _____ Mcfd @ 15.025	Angle of Slope θ _____	Slope, n 1.30
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Remarks: **P_w was taken from BHP. Slope greater than 1.000 will retest well.**
72 hrs. P_w before test = 3862 psi 72 hrs P_w after test = 4138 psi
DWT before test = 3132 DWT 72 hrs after test 3295

Approved By Commission:	Conducted By: Talbot & Nichols	Calculated By: Nichols	Checked By: Bennett
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