

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

well file
Form C-122
Revised 9-1-65

Test No. 2

Type Test ☐ Initial ☐ Annual ☒ Special					Test Date 1-25-29-72	
Company CITIES SERVICE OIL CO. ✓				Connection Transwestern Pipeline Company		
Pool South Carlsbad				Formation Morrow		Unit
Completion Date 10-5-71		Total Depth 11,750		Plug Back TD 11,700		Elevation 3161 GL
Farm or Lease Name Merland A <i>Cam</i>		Well No. 1				
Csg. Size 5 1/2" line	Wt. 17 & 20	d 4.778	Set At 11,749	Perforations: From 11318 To 11653		Well No.
Tbg. Size 2 3/8"	Wt. 4.6	d 1.995	Set At 11240	Perforations: From To		Unit 0 29 22S 27E
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 11,240		County Eddy
Producing Thru Tubing		Reservoir Temp. °F 190° @ 11700'		Mean Annual Temp. °F 60°		Baro. Press. - P _a 13.2
State New Mexico						
L 11,240	H 11,240	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	24 hrs. S.I.						2865				
1.	2" x 1.250			840	12	71	2435				24 hrs.
2.	2" x 1.250			780	24	73	2247				24 hrs.
3.	2" x 1.250			855	36	75	2020				24 hrs.
4.	2" x 1.250			780	72	75	876				24 hrs.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcfd
1.	8.120	101	853.2	.9896	1.311	1.064	1132
2.	8.120	138	793.2	.9877	1.311	1.058	1535
3.	8.120	177	868.2	.9859	1.311	1.062	1973
4.	8.120	239	793.2	.9859	1.311	1.058	2654
5.							

NO.	P _t	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.	1.26	531	1.52	.884	A.P.I. Gravity of Liquid Hydrocarbons .582 _____ Deg.
2.	1.17	533	1.53	.894	Specific Gravity Separator Gas _____ X X X X X X X X
3.	1.28	535	1.53	.886	Specific Gravity Flowing Fluid _____ X X X X X
4.	1.17	535	1.53	.894	Critical Pressure 672 _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature 350 _____ R _____ R

P _c 3993.2 P _c ² 15,945.6				
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1		3143.2	9879.7	6065.9
2		2912.2	8480.9	7464.7
3		2638.2	6960.1	8985.5
4		1281.2	1641.5	14304.1
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.77$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3492$ MCFD

Point #3

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.77$

Absolute Open Flow 3492 _____ Mcfd @ 15.025	Angle of Slope θ _____	Slope, n 1.000
Remarks: P _c taken from BHP bomb, 72 hrs P _c after test = 3993.2 psia		
AOF to comply w/rule of exponent which is greater than 1.000		

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