

N MEXICO OIL CONSERVATION COMMS. N
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 11-30-71		DEC 9 1971	
Company CITIES SERVICE OIL COMPANY				Connection Transwestern Pipeline Company		O. C. O. ARTESIAL OFFICE	
Pool South Carlsbad				Formation Morrow		Unit	
Completion Date 6-11-71		Total Depth 11,820		Plug Back TD 11,764		Elevation 3183	
Farm or Lease Name Spencer 'A'		Well No. 1					
Csg. Size 7" 26	Wt. 18	d 6.276	Set At 10609	Perforations: 11401, 04, 06, 46, 48, 10504-11808		From 11450.54, 63, 65, 63, 70	
Thg. Size 2 3/8"	Wt. 4.6	d 1.995	Set At 10,465	Perforations: From To		Unit 0	Sec. 30
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G.G. Multiple				Packer Set At 10,463		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 11401 @ 180°		Mean Annual Temp. °F 60		Baro. Press. - P _a 13.2	
State New Mexico							
L 10,465	H 11401	Gg .583	% CO ₂ 1.01	% N ₂ .28	% H ₂ S -	Prover Orifice	Meter Run 4"
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 Hr.						3735				
1.	4"		1 3/4	825	3	82	3715	70			1
2.	4"		1 3/4	840	22	81	3615	70			1
3.	4"		1 3/4	860	50	58	3437	70			1
4.	4"		1 3/4	870	67	50	3325	70			1
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	14.93	71	838.2	.979	1.310	1.056	1436
2	14.93	137	853.2	.9804	1.310	1.058	2779
3	14.93	209	873.2	1.002	1.310	1.070	4382
4	14.93	243	883.2	1.010	1.310	1.075	5160
5.							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1	1.24	542	1.56	.896	A.P.I. Gravity of Liquid Hydrocarbons No Liq. _____ Deg.
2	1.26	541	1.56	.894	Specific Gravity Separator Gas .583 _____ XXXXXXXXXX
3	1.29	518	1.49	.874	Specific Gravity Flowing Fluid _____ XXXXX
4	1.31	510	1.47	.865	Critical Pressure 676 _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature 348 _____ R _____ R

P _c 4687.2 P _c ² 21969.8				
NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1		4634.2	21475.3	494.0
2		4563.2	20822.3	1147.0
3		4421.2	19547	2422.8
4		4332.2	18767.9	3201.9
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 9.068$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.60$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n$ **20,157 MCFD**

Rate #3

Absolute Open Flow 20,157 _____ Mcfd @ 15.025	Angle of Slope θ _____	Slope, n .693
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Remarks: **P_w & P_c were taken from bottom hole pressure bomb.**
BHP before test = 4674 BHP after 72 hr. S.I. = 4674

Approved By Commission:	Conducted By: Nichols & Talbott	Calculated By: S.C. Nichols	Checked By: Brad Bennett
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