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NEW MEXICO OIL CONSERVATION COMMISSION

MAY 16 1972 MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122
Revised 9-1-65

O. C. C.

Type Test: ☒ Initial ☐ Annual ☐ Special		Test Date: 5-1-72	
Company: CITIES SERVICE OIL COMPANY		Connection: None	
Pool: Washington Ranch Morrow		Formation: Morrow	
Completion Date:		Total Depth: 6960	Plug Back TD: 6950
		Elevation: 3717 G.L.	Farm or Lease Name: Government M
Csg. Size: 5 1/2"	Wt.: 15.5	d: 4.892	Set At: 6979
Perforations: From 6815 To 6888		Well No.: 2	
Tbg. Size: 2 7/8"	Wt.: 6.4	d: 2.441	Set At: 6732
Perforations: From To		Unit: N 27 25S 24E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple		Packer Set At: 6732	County: Eddy
Producing Thru: Tubing	Reservoir Temp. °F: 124 @ 6825	Mean Annual Temp. °F: 60	Baro. Press. - P _a : 13.2
State: New Mexico			
L: 6815	H: 6815	G _g : .570	% CO ₂ : .05
% N ₂ : 1.56	% H ₂ S: .04 grains	Prover: 3"	Meter Run: 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. S.I.						2464				
1.	3"	2"		600	27	74	2146	75			1 hr.
2.	3"	2"		600	41	73	2019	71			1 hr.
3.	3"	2"		600	62.5	77	1826	74			1 hr.
4.	3"	2"		605	91	67	1552	74			1 hr.
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	21.32	128.67	613.2	0.9868	1.325	1.041	3734
2	21.32	158.57	613.2	0.9877	1.325	1.042	4610
3	21.32	195.77	613.2	0.9840	1.325	1.041	5665
4	21.32	237.18	613.2	0.9933	1.325	1.043	6941
5							

NO.	P _t	Temp. °R	T _t	Z	Gas Liquid Hydrocarbon Ratio	A.P.I. Gravity of Liquid Hydrocarbons	Specific Gravity Separator Gas	Specific Gravity Flowing Fluid	Critical Pressure	Critical Temperature
1	0.92	534	1.57	.923			0.570		670	341
2	0.92	533	1.57	.921						
3	0.92	537	1.57	.923						
4	0.92	527	1.55	.919						
5										

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1	2529.2	6396.9	1806.7	
2	2403.2	5775.4	2423.2	
3	2215.2	4907.1	3296.5	
4	1950.2	3803.3	4400.3	
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.864$ (2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.559$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 9169$

Rate No. 4 used to calculate AOF

Absolute Open Flow: 10,821 Mcfd @ 15.025	Angle of Slope: 713
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Remarks: Pressures taken from BHP bomb
72 hr. S.I. pressure = 2864.2 psia
Bomb @ 6680

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