

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST, GAS WELL

Form C-122
Revised 9-1-65

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 1-5-78			
Company Union Oil Company of California				Connection El Paso Natural Gas Company					
Pool Rock Lake Morrow Gas				Formation Middle Morrow				Unit	
Completion Date 5-30-77		Total Depth 15,390		Plug Back TD 14,480		Elevation 3,548		Farm or Lease Name Northern Natural State	
Csg. Size 7.625	Wt. 39.00	d 6.625	Set At 14,601	Perforations: From 13,557' To 13,565'		Well No. 1			
Tbg. Size 2.875	Wt. 6.50	d 2.441	Set At 12,696	Perforations: From - To -		Unit Sec. Twp. Rge. 0 28 22S 35E			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 12,655		County Lea	
Producing Thru Tubing		Reservoir Temp. °F 176° @ 13,562		Mean Annual Temp. °F 60.0		Baro. Press. - P _a 13.20		State New Mexico	
L 13,562	H 13,562	Gg .641	% CO ₂ .36	% N ₂ .49	% H ₂ S 0	Prover 0	Meter Run 4.0	Taps Pipe	

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							3,325	60			89.0
1.	4.03	X	1.75	54	4.8	76	2,615	68	0	0	2.0
2.	4.03	X	1.75	54	11.5	54	2,450	67	0	0	3.0
3.	4.03	X	1.75	56	32.8	64	2,040	65	0	0	17.5
4.	4.03	X	1.75	56	47.1	70	1,690	67	0	0	4.0
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	16.80	17.96	67.2	.9850	1.2490	1.0059	373
2	16.80	27.80	67.2	1.0058	1.2490	1.0066	591
3	16.80	47.64	69.2	.9962	1.2490	1.0065	1,002
4	16.80	57.09	69.2	.9905	1.2490	1.0063	1,194
5.							

NO.	P _t	Temp. °R	T _r	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.	.10	536	1.45	.988	78.526	51.0	.641	X X X X X X X X	671	669
2.	.10	514	1.39	.987				X X X X X		381
3.	.10	524	1.42	.987						
4.	.10	530	1.43	.988						
5.										

NO.	P _t ²	P _w	P _w ²	P _c ² - P _w ²
1	6,906	2,617	6,847	4,297
2	6,066	2,454	6,023	5,121
3	4,215	2,049	4,200	6,943
4	2,900	1,697	2,880	8,264
5				

(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.3485$

AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1,610$

(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.3485$

Absolute Open Flow	1,610	Mcfd @ 15.025	Angle of Slope θ	45°	Slope, n	1.000
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Remarks: Calculations completed using Garrett Computing Systems' AOF Program

Approved By Commission: <i>John W. Rumpfen</i>	Conducted By: L. L. Harmon	Calculated By: W. G. Murray	Checked By: L. H. Pardue
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