

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS

SF *fill* Form C-122 *file*
Revised 9-1-75
RECEIVED

JUN 9 1982

Type Test ☒ Initial ☐ Annual ☐ Special		Test Date B-25-82		O. C. D. ARTESIA, OFFICE	
Company Yates Petroleum Corporation		Connection Transwestern Pipeline Company			
Pool Pecos Slope Abo ✓		Formation Abo		Unit N1 18822	
Completion Date 12-14-81		Total Depth 4552'		Elevation 3628.6'	
Casing Size 4 1/2"		Set At 3990'		Perforations From 3833 To 3836	
Tubing Size 2 7/8"		Set At 3812'		Perforations From To	
Type well - Single - Provenhead - G.G. or G.O. Multiple Single				Packer Set At 3812	
Producing thru Tubing		Reservoir Temp. °F 94° @ 3200		Mean Annual Temp. °F 60°	
L 3812		H 3812		Gg .646	
Gg .646		% CO ₂ .14		% N ₂ 6.56	
% H ₂ S 0		Prover -----		Meter Run 2"	
Flange		State New Mexico		County Chaves	

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
51							1015				Days
1.	2.067 X .750			210	48.7	65	670	64			24 hrs.
2.	2.067 X .750			210	28.3	65	797	63			24 hrs.
3.	2.067 X .750			210	23.1	65	867	64			24 hrs.
4.	2.067 X .750			210	14.8	65	885	62			24 hrs.
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 _{sp}	Rate of Flow Q, Mscf/d
1	2.709	104.2	223.2	.9962	1.244	1.038	363
2	2.709	79.49	223.2	.9962	1.244	1.038	277
3	2.709	71.74	223.2	.9962	1.244	1.038	250
4	2.709	57.39	223.2	.9962	1.244	1.038	200
5.							

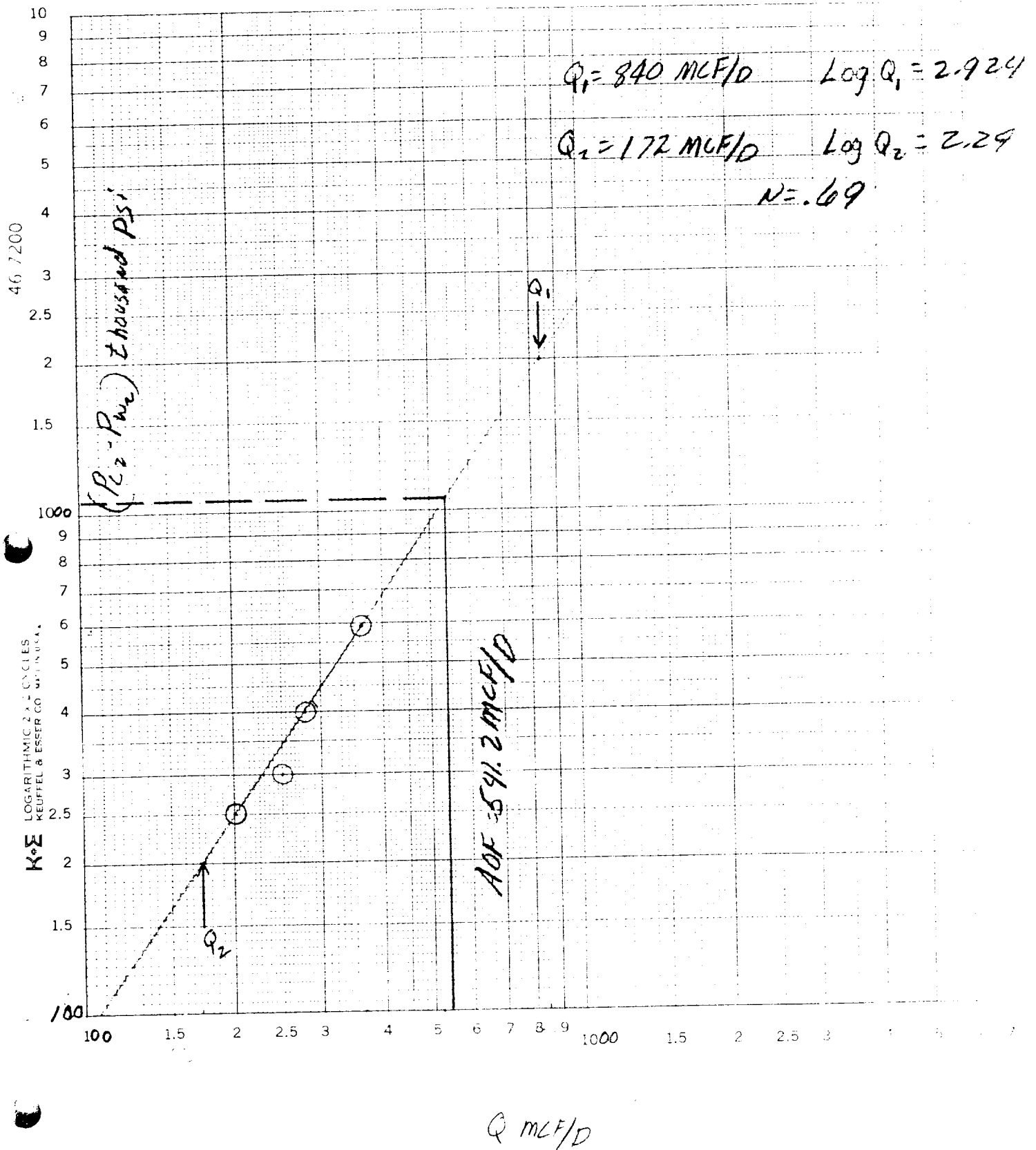
NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio _____ Mol/Std.
1.	.339	525	1.201	.929	A.P.L. Gravity of Liquid Hydrocarbons _____ Deg.
2.	.339	525	1.201	.929	Specific Gravity Separator Gas .646
3.	.339	525	1.201	.929	Specific Gravity Flowing Fluid _____
4.	.339	525	1.201	.929	Critical Pressure 659 P.S.I.A.
5.					Critical Temperature 354 °R

F _c 1028.2 F _w 1057					(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 1.784$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.49$	
NO.	P _t	P _w	P _w ²	P _c ² - P _w ²	AOF = Q $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 541.2$			
1	466.8	683.6	467.4	589.6				
2		810.6	657	400				
3		870	757	300				
4		898.3	807	250				
5								

Absolute Open Flow 541.2		Mol/d @ 14.7/25		Angle of Slope θ		Slope, n .69	
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Remarks: Static pressure by Bennett Wireline, flowing pressure by DWT calculations. Work-sheet C122D attached.

Approved By Commission:	Conducted By: David Weaver	Calculated By: Scott Yates	Checked By: Ray Stall
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WORKSHEET FOR CALCULATION OF STATIC COLUMN WELLHEAD PRESSURE (P_w)COMPANY _____ LEASE 1 WELL NO. 2 DATE _____LOCATION: Unit 1 Section 11 Township 24 Range 1L 300 H 300 L/H 1 G 0.00 % CO₂ 1.0 % N₂ _____ % H₂S _____d 2.1.11 F_r 0.010763 GH 2573 Per 0.5 T_{cr} 354
TABLE IX & X TABLE IX & X

LINE	P ₁	Ratloc	2nd trial	Ratio	2nd trial	Ratio	2nd trial
1 Q _m							
2 T _w (W.H. or)							
3 T _w (B.H. or)							
4 T _w = (W ² + T _w ²) ^{1/2}							
5 T _w (W.H.)							
6 T _w							
7 GH/TE							
8 e ^s (Table XIV)							
9 1 - e ^s (Table XIV)							
10 P ₁							
11 P ₁ / 2 / 1000							
12 F _r (Table XV)							
13 F _c = F _r T _z							
14 F _c Q _m							
15 L/H (F _c Q _m) ²							
16 F _w = L/H (F _c Q _m) ² (1 - e ^s)							
17 P _w ² = P ₁ ² + F _w							
18 P _s ² = e ^s P _w ²							
19 P _s							
20 P = (P ₁ ² + P _s ²) ^{1/2}							
21 P _r = (P/P _{cr})							
22 T _r = (T/T _{cr})							
23 Z (Table XI)							