

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

Form C-122
Revised 9-1-65

NOV 1 1982

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 9/30/82		O. C. D.	
Company Yates Petroleum Corporation				Connection Transwestern Pipeline				ARTESIA, OFFICE	
Pool Pecos Slope - Abo Gas				Formation Abo				Unit	
Completion Date 4/17/82		Total Depth 4242'		Plug Back TD 4188'		Elevation 3792' GL		Farm or Lease Name Kilgore "SO"	
Well Size 4 1/2"	Wt. 9.5#	d 4.090	Set At 4238'	Perforations: From 3779 To 4007		Well No. 1			
Th. Size 2 3/8"	Wt. 4.7#	d 1.995	Set At 3733'	Perforations: From To		Unit Sec. Top. Rge. M 24 6S 25E			
Type Well - Single - Brodenhead - G.G. or G.O. Multiple						Packer Set At 3733'		County Chaves	
Producing Thru Tubing		Reservoir Temp. °F 95° 3893'		Mean Annual Temp. °F 62		Boro. Press. - P ₀ 13.2 psi		State New Mexico	
L 3733'	H 3733'	C _g .640	% CO ₂ 0.04	% N ₂ 4.86	% H ₂ S 0	Prover --	Motor Run 2"	Tops Flanged	

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Critical 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							978				
1.	2.067 x 1.000			185	8.5	70	956	62			24 hr.
2.	2.067 x 1.000			190	12.7	70	946	62			24 hr.
3.	2.067 x 1.000			210	22.3	72	920	62			24 hr.
4.	2.067 x 1.000			220	34.0	72	900	62			24 hr.
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_{01}}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, Fpv	Rate of Flow Q, Mcf/D
1	4.946	40.9	198.2	.9905	1.25	1.017	255
2	4.946	50.7	203.2	.9905	1.25	1.017	316
3	4.946	70.5	223.2	.9887	1.25	1.019	439
4	4.946	89.0	233.2	.9887	1.25	1.019	555
5							

NO.	P _r	Temp. °R	T _r	Z	Gas Liquid Hydrocarbon Ratio Dry Mcf/bbl.	A.P.I. Gravity of Liquid Hydrocarbons -- Deg.	Specific Gravity Separator Gas .665	Specific Gravity Flowing Fluid XXXXX	Critical Pressure 661 P.S.I.A.	Critical Temperature 358 R
1	.30	530	1.48	.967				.665		
2	.31	530	1.48	.966				.665		
3	.34	532	1.49	.964				.661		
4	.35	532	1.49	.963				.661		
5										

NO.	P _r ²	P _w	P _w ²	P _r ² - P _w ²	(1) $\frac{P_c^2}{P_r^2 - P_w^2} = 6.79$	(2) $\left[\frac{P_c^2}{P_r^2 - P_w^2} \right]^n = 3.414$
1	939.3		940.2	42.3		
2	920.1		921.2	61.2		
3	870.9		873.3	109.2		
4	833.9		837.8	144.7		
5						

Absolute Open Flow 1895 Mcf @ 15.025		Angle of Slope @ .641	
Remarks:			
Approved By Commission: Conducted By: David Weaver Calculated By: Andie Alderson Checked By:			

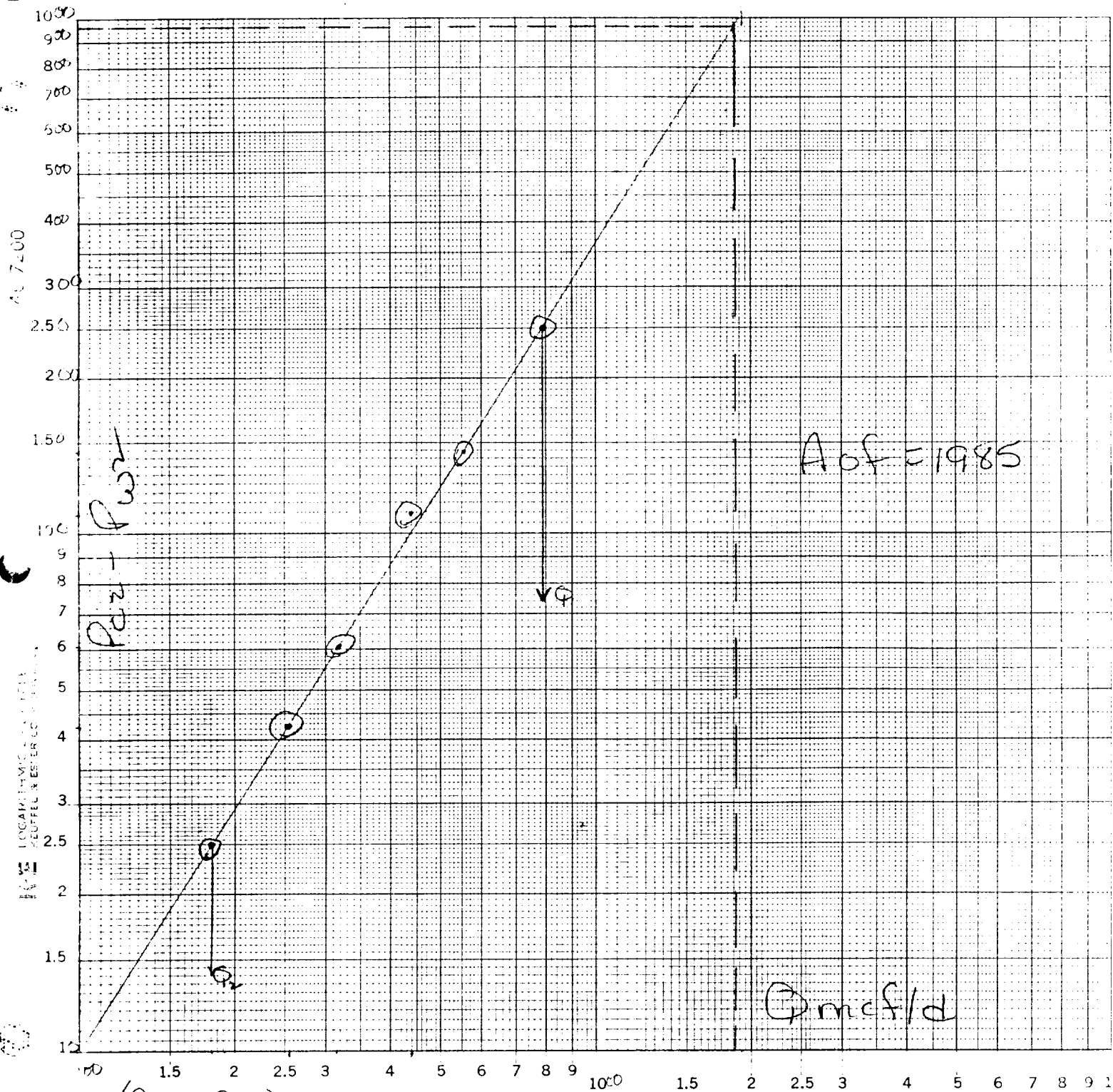
COMPANY Lytle Per Corp LEASE Kilgore SO WELL NO. 1 DATE 10/13/82

LOCATION: Unit M Section 24 Township 6S Range 2SE
 L 3733 H 3733 LN 1 G 646 %CO₂ .04 %N₂ 4.86 %H₂S 0
 d 1.995 F_r .01823 GH 2389 P_{cr} 661 T_{cr} 358

TABLE 12.8.2

LINE	15r	200	3120	474					
1 Q _m	.255	.316	.439	.555					
2 T _w (W.H. °R)	522	522	522	522					
3 T _s (B.H. °R)	555	555	555	555					
4 T = (1.7 W ^{1/2} / 1.5)	538.5	538.5	538.5	538.5					
5 Z (Est.)	.856	.857	.861	.864					
6 T _Z	460.96	461.49	463.65	465.26					
7 G _H /T _Z	5.183	5.177	5.153	5.135					
8 e ^s (Table XIV)	1.215	1.214	1.213	1.212					
9 1-e ^s (Table XIV)	.177	.176	.176	.175					
10 P _L	969.2	959.2	933.2	913.2					
11 P _L / 1000	939.3	920.1	870.9	833.9					
12 F _r (Table XV)	.01823	.01823	.01823	.01823					
13 F _c = F _r T _Z	8.403	8.413	8.452	8.482					
14 F _c Q _m	2.143	2.659	3.711	4.767					
15 L/H (F _c Q _m) ²	4.592	7.668	13.768	22.159					
16 F _w = L/H (F _c Q _m) ² (1-e ^s)	.813	1.244	2.423	3.878					
17 P _w = P _L + F _w	940.2	921.3	873.3	837.8					
18 F _s = e ^s P _w	1142.3	1118.5	1059.3	1015.4					
19 F _s	1068.8	1057.6	1029.2	1007.7					
20 P = (P _L + P _s)	1019.0	1008.4	981.2	960.4					
21 P _r = (P/P _s)	1.54	1.5	1.49	1.45					
22 T _r = (T/T _{cr})	1.50	1.5	1	1.50					
23 Z (Table XI)	.87	.87		.87					

- Yates Petroleum Corp
Federal HQ #3
m 24-65-25E
Chaves County



$$\begin{aligned}(P_{c2} - P_{w2})_1 &= 250 \\(P_{c2} - P_{w2})_2 &= 25 \\Q_1 &= 788 \\Q_2 &= 180\end{aligned}$$

$$\begin{aligned}\log Q_1 &= 2.89653 \\ \log Q_2 &= 2.25527 \\ n &= .64125 = .641\end{aligned}$$