

NEW MEXICO OIL CONSERVATION COMMISSION
MULTIPOINT / ONE POINT BACK PRESSURE TEST OR GAS WELL

Form C-122
 Revised 9-1-65
File 122 Yates

RECEIVED

Type Test ☒ Initial ☐ Annual ☐ Special						Test Date 8-8-79		OCT 10 1979	
Company Yates Petroleum Corp.				Connection Transwestern Pipeline Co.				O. C. C.	
Pool Wildcat Mississippi				Formation Mississippi				Unit ARTESIA, OFFICE	
Completion Date 12-29-78		Total Depth 8900' KB		Plug Back TD 8869' KB		Elevation 3664' KB		Farm or Lease Name Cities "JG" St. Com	
Csg. Size 4-1/2"		Wt. 11.6#		Set At 4.000		Perforations: From 8551 To 8775'		Well No. 1	
Tbg. Size 2-3/8"		Wt. 4.7#		Set At 1.995		Perforations: From To		Unit Sec. Twp. Rge. P 13 18S 24E	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single						Packer Set At 8505		County Eddy	
Producing Thru Tubing		Reservoir Temp. °F 145 @ 8554		Mean Annual Temp. °F 62		Baro. Press. - P _a 13.2		State New Mexico	
L		H		G _g		% CO ₂		% N ₂	
% H ₂ S		Prover		Meter Run		Taps			

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							3172	82			Days
1.	4.026	x	1.375	260	11	80	3018	83			1 hour
2.				262	20	80	2883	85			1 hour
3.				264	40	80	2702	86			1 hour
4.				2-6	79	80	2285	87			1 hour
5.											

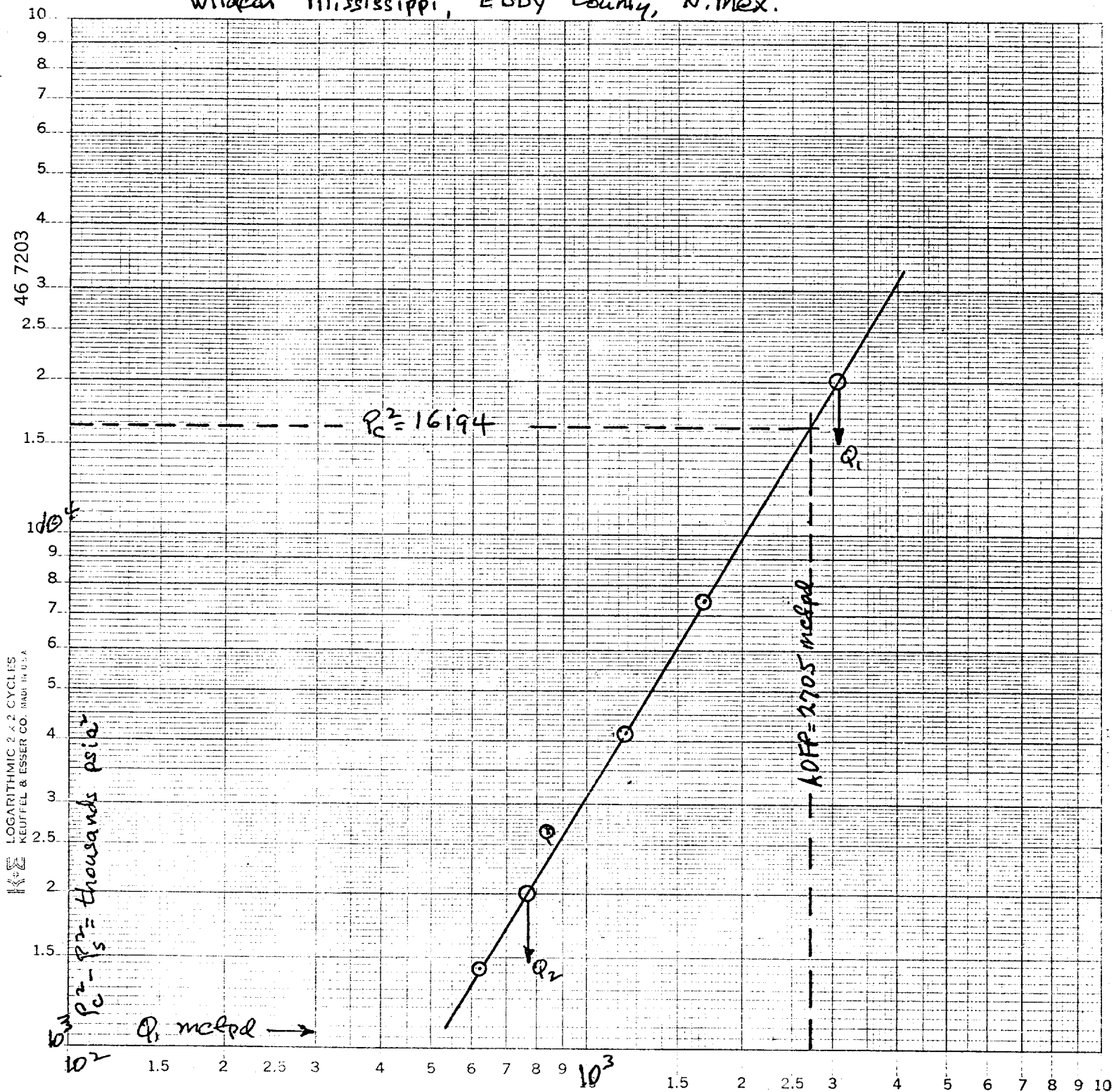
RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P _m	Flow Temp. Factor Ft.	Gravity Factor F _g	Super Compress. Factor, F _{pv}	Rate of Flow Q, Mcfd
1	9.071	54.82	273.2	.9813	1.241	1.025	621
2	9.071	74.19	275.2	.9813	1.241	1.025	840
3	9.071	105.30	277.2	.9813	1.241	1.025	1192
4	9.071	148.52	279.2	.9813	1.241	1.025	1682
5							

NO.	P _t	Temp. °R	T _f	Z	Gas Liquid Hydrocarbon Ratio	116.34 Mcf/bbl.
1.	.407	540	1.448	.952	A.P.I. Gravity of Liquid Hydrocarbons	52.6 Deg.
2.	.410	540	1.448	.952	Specific Gravity Separator Gas	0.649
3.	.412	540	1.448	.952	Specific Gravity Flowing Fluid	XXXXXX
4.	.415	540	1.448	.952	Critical Pressure	672 P.S.I.A.
5.					Critical Temperature	373 R

P _c 4024.2 P _c ² 16194				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 2.1819$		(2) $\left[\frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 1.60824$	
NO	P _t ²	P _w	P _w ²	P _c ² - P _w ²			
1			14772	1422			
2			13564	2630			
3			12024	4170			
4			8772	7422			
5							

Absolute Open Flow 2705 Mcfd @ 15.025				Angle of Slope @ 55.2 deg		Slope, n 0.6090	
Remarks: Static pressures by Bennett Wireline; Flowing pressures by DWT.							
Calculations worksheet C-122D attached.							
Approved By Commission:		Conducted By:		Calculated By:		Checked By:	
		David Weaver		Eddie Mahfood			

YPC - Cities JG State Com. No. 1, P-13-18s-24E
 Wildcat Mississippi, Eddy County, N. Mex.



$$Q_1 = 3050 \text{ mcfpd} \quad \log Q_1 = 3.4843$$

$$Q_2 = 768 \text{ mcfpd} \quad \log Q_2 = 2.8853$$

$$n = 0.6090$$

WORKSHEET FOR CALCULATION OF ST. 11C COLUMN WELLHEAD PRESSURE (P_w)

C-122D
Adopted 9-1-65

COMPANY YPC LEASE Cities of State Co WELL NO. 1 DATE 8-8-79

LOCATION: Unit P Section 13 Township 18S Range 24E

L 8554 H 8554 L/H 1.000 G 0.675* %CO₂ 0.42 %N₂ 0.42 %H₂ Nil

3505 (3.48) = 33850
49 (16.0) = 784
3554 (4.049) * 34634
D 2.0122 F_i 1016310 GH 5774
*Includes 0.67% Water Vapor

P_{CT} 6.92* T_{CT} 389.5
TABLE IX & X

LINE	51	1	2	3	4	51	1	2	3	4
1 Q _m	—	0.621	0.840	1.192	1.682		0.621	0.840	1.192	1.682
2 W (W.H. °R)	542	543	545	546	547					
3 T _s (B.H. °R)	605	605	604	604	603					
4 T = (L _w + L _s)	573.5	574	574.5	575	575		574	574.5	575	575
5 Z (Est.)	0.8075	0.796	0.787	0.774	0.758				0.776	
6 TZ	463.04	456.90	452.13	445.05	435.85				446.20	
7 GH/TZ	12.470	12.637	12.771	12.974	13.248				12.940	
8 e ^s (Table XIV)	1.5962	1.60625	1.6143	1.62665	1.6434				1.6246	
9 1-e ^s (Table XIV)		0.37794	0.3805	0.3852	0.3915				0.3845	
10 P _i	3185.2	3031.2	2896.2	2715.2	2298.2				2715.2	
11 P _i 2/1000	10145.5	9188.2	8388.0	7372.3	5281.7				7372.3	
12 F _i (Table XV) S _e	0.46762	0.449390	0.47890	0.48652	0.49679				0.48526	
13 C = F _i TZ		7.4521	7.3742	7.2588	7.1087				7.2775	
14 F _c Q _m		4.628	6.194	8.652	11.957				8.675	
15 L/H (F _c Q _m) 2		21.42	38.37	74.86	142.97				75.25	
16 F _w = L/H (F _c Q _m) 2 (1-e ^s)		8.1	14.6	28.8	56.0				28.9	
17 P _w 2 = P _i 2 + F _w		9196.3	8402.6	7401.1	5337.7				7401.2	
18 P _s 2 = e ^s P _w 2	16194.2	14771.6	13564.3	12039	8772.0				12024.0	
19 P _s	4024.2	3843.3	3682.0	3469.7	2961.7				3467.6	
20 P = (P _i + P _s)	3605.7	3437.3	3289.5	3092.5	2630.0				3091.4	
21 P _i = (P/P _{CT})	5.209	4.967	4.753	4.469	3.801				4.467	
22 T _i = (T/T _{CT})	1.472	1.474	1.475	1.476	1.476				1.476	
23 Z (Table XI)	.8075	0.796	0.787	0.776	0.758				0.776	